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ABSTRACT

These two publications are two of three that comprise a course that provides occupationally specific training designed to develop knowledge and skills for employment in the area of housing, furnishings, and equipment production, management, and services. The reference book is a student text that provides information needed by employees in the housing, furnishings, and equipment industries. Each chapter contains a chapter focus (the Texas Essential Knowledge and Skills standards addressed in that chapter), chapter vocabulary list, "essential questions" boxes, and chapter highlights. Topics of the 25 chapters include career opportunities; design; selection and coordination of floor plans, furnishings, and accessories; walls and ceilings; floors and floor coverings; furniture; fabrics; window treatments; bedding; safety and sanitation; tools and equipment; floral design; entrepreneurial opportunities; marketing; and customer relations. There are 11 references and an index. The student activity book contains paper-and-pencil activities that reinforce essential information presented in each chapter of the reference book. (YLB)

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FAMILY AND CONSUMER SCIENCES EDUCATION • TEXAS EDUCATION AGENCY • AUSTIN, TEXAS

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Chapter 1

The Industry

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

1F Analyze societal and cultural influences on the design of residential and nonresidential environments and their furnishings.

4E Describe considerations for selecting furniture and equipment to accommodate persons with specials needs.

7C Analyze uses of technology in furnishings, design, and construction.

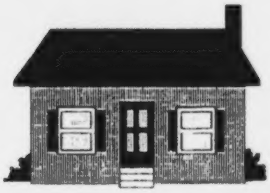
15B Exhibit ethical practices as defined by the housing, furnishings, and equipment industries.

15C Analyze legal aspects of the housing, furnishings, and equipment industries.

Chapter Vocabulary

archaeologists
child labor laws
code of ethics
codes
computer-aided design (CAD)
computer-aided design and drafting (CADD)
Employee's Withholding Allowance Certificate (Form W-4)
Equal Employment Opportunity (EEO)
ethics
Fair Labor Standards Act
Federal Insurance Contributions Act (FICA)
Federal Trade Commission (FTC)
green design
house
income tax
manufactured homes
physical needs
professionalism
psychological needs
recycled wool
sexual harassment
technology
Textile Fiber Products Identification Act
unemployment compensation
universal design
virgin wool
Wage and Tax Statement (Form W-2)
wage deductions
wage statement
wool
Wool Products Labeling Act of 1939
worker's compensation
zero-scaped yards

The housing and furnishings industry has come a long way over the years. A ***house*** can be defined as any structure built for people to live in and is a place of great importance in their lives. It is an environment that provides security and protection from the world around us.



Everyone has the desire for a home whether that home is a house or an apartment. Housing that has been built in the past can be put into three categories, natural shelters, portable shelters, and permanent shelters. Housing will look very different depending on the part of the country in which the house is located.

EARLY HOUSING

Natural Shelters

Primitive people used natural housing shelters because they lacked the necessary tools to build houses. These natural shelters consisted of caves, large rocks, and large holes in the ground that were made by large boulders. Primitive people were able to improve the structures with the invention of some simple tools.

Archaeologists are scientists who study material remains such as fossils, relics, and artifacts of past human life. Through examination of pottery chips, bones, and charcoal, archaeologists know that humans occupied certain caves many centuries ago. They have also found the remains of elaborate pits that had sturdy roofs, places to store food, fireplaces for cooking food and mounds that were covered with animal skins and used as beds. Shelters were generally located around a water source, available food, or locations that could help protect the people.

Portable Shelters

Because primitive hunter's survival was dependent on animals, fish, and wild fruit, they had to move when food ran out. There was a need for portable housing that could be taken apart easily, transported, and put back together quickly. These portable shelters were usually built around a framework of wood or bone. Materials such as animal skins, branches, and grasses were used to cover the frame. Native American people built cone-shaped tents that were called teepees.

Permanent Shelters

People no longer had to be mobile once farming was developed. Families could stay in one place and have a working farm and livestock to eat. Therefore, they were able to build shelters that were permanent. These structures were made from the available materials in the area. Some huts were made from bamboo or giant reeds which were tied together to make a cone-shaped structure.

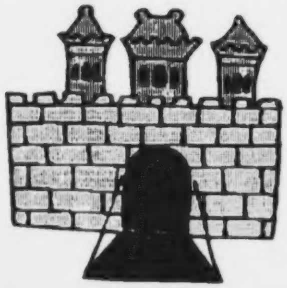
As people began to realize the consistent source of food that a lake or river supplied, they too began to build more permanent structures. Soon many people were locating by these sources of food and soon small communities began to grow. Farming areas began to grow to create other communities.

Looking to Egypt as early as 5000 BC, one can see an example of the gradual changes in the development of housing. The Egyptians were learning to farm on the banks of the Nile River. As the farmer's skills became advanced and their crops were more prosperous, they began to form farming groups. One person was in charge of each group and he eventually gained a position of power. With the advances in technology, the farmers had surpluses of crops that could be traded with the Romans and Greeks for money or other items. The people who developed great wealth were the people who led the farmers' groups and those who traded goods. These people built homes that were very elaborate as a sign of social status and as a way to protect their great wealth from robbers. Eventually the Egyptian rulers and nobles, known as pharaohs, lived in large beautifully decorated palaces. However, most of the Egyptian farmers lived in mud-brick huts.

Other communities and civilizations developed in much the same way. The powerful and wealthy people lived in elaborate houses. The more possessions that they acquired, the more the rich had to lose. They needed homes that offered security against robbers and attacks by the enemy. Cliffs, mountainsides, and hilltops offered good defensive sites where they would construct their homes of sturdy materials. In medieval times, castles were constructed of thick stone walls to withstand army attacks. Moats around the castle with high battlements were other security features.

Although housing began to be constructed of better materials, homes for the most part were uncomfortable. Medieval castles were elaborate and enormous in size but they were cold and drafty. Stone floors were hard to walk on because they were so uneven and they were extremely cold. The castles were also dark and dimly lit.

During the Italian Renaissance period in the 1300s, housing became more comfortable. This was a time of great advances in technology. These advances led to homes that were more sanitary, better ventilated, and brighter.



The middle class began to grow and prosper during the Renaissance, which allowed people to have greater expectations for their homes. More leisure time allowed people to have more time to enjoy their homes for relaxing, entertaining, and privacy.

Many homes in the 19th century, particularly in industrialized nations, became the place for social gatherings. In England, for example, families, friends, and neighbors would frequently be entertained in the homes of the rich middle class and would stay for months at a time.

◆ ***Essential Questions:*** ◆
Early Housing

1. What was the purpose of portable housing?
2. What role did farming play in the establishment of permanent housing and communities?

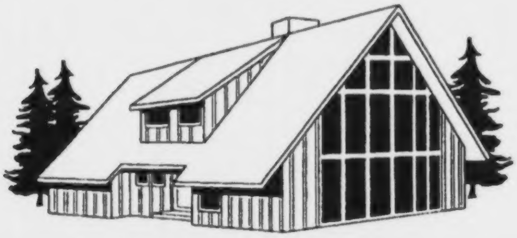
HUMAN NEEDS FOR HOUSING

Housing has changed over the years to meet the needs of individuals. As needs have changed, so has the look of housing. Individual's homes may vary from region to region, but their basic housing needs remain universal. These basic housing needs are physical needs and psychological needs.

Physical Needs

Physical needs include everything a person needs to live such as air, light, shelter, food, and sleep. As we know from Maslow's Hierarchy of Human Needs, physical needs are the first needs that must be met.

Shelter. The need for shelter is the most apparent physical need. Protection against natural forces – rain, snow, hail, temperatures, humidity, winds and sunlight, influences the way houses are built. Since the climate varies so greatly in parts of the United States, many styles of housing are necessary. For instance, in areas that get a lot of snow, ceilings are generally lower and the roof pitch is steep in order to shed the snow.



Sleep. Sleep is another physical need that housing provides. People rest much better when they feel safe and secure. Most people in the United States are fortunate enough to have their own homes in which to sleep and specific rooms where sleeping takes place – the bedroom. In many Japanese homes, sliding paper screens called shoji screens move to separate spaces. They sleep on floor mats that are put down at night and taken up during the day. The shoji screens can alter the space depending on what activities are taking place.

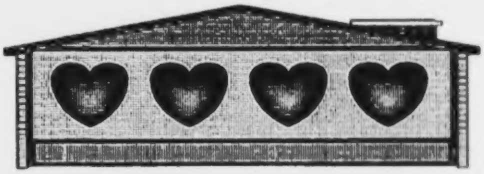
Food. Another important physical need that housing accommodates is a place in which to prepare and eat food. In the United States, homes have a separate space in which to prepare food – the kitchen. Once the food is prepared, people generally go into a space, which is just for eating. Sometimes the kitchen also serves as the room where people eat their meals as well as prepare the meals. Americans are involved in so many extra-curricular activities that many families eat at different times. The development of the bar has become a part of many people's homes because sitting at the bar is a quick place to eat in a hurry.

Safety and security. Besides shelter and protection from the elements, probably the most important reason for housing is the need for safety and security. Early homes protected the occupants from robbers and from natural forces. Safety and security was also the reason that people began living in communities so that they could help protect each other. Homes and apartments today have even more safety features than early homes. Many people install security systems for further safety and security.

Psychological needs

Psychological needs are needs that are related to our emotions and our thoughts. These needs are love and acceptance, privacy, individuality, and creativity.

Love and Acceptance. Everyone has the need to be part of a loving family and to be accepted by friends. The home is generally the first place where children learn to interact with others. Housing can foster these relationships because the home can be designed to encourage family togetherness.



People often consider their need to be part of a group when they start looking for housing. People often consider living in neighborhoods where they feel the people are friendly and welcoming. Some people wish to live in a large city because they feel it offers more social activities and opportunities to meet people. Many people prefer to live in small towns so that they can get to know the people better.

Often older adults feel isolated from others because they are unable to get out as much and they are afraid that someone will try to harm them. They have concerns about needing help and no one coming to their aid. Many cities or towns are building senior living centers where older adults can live and have privacy, but people are nearby to help them. Individuals have their own apartment but they have people around them to help out when needs arise.

Some cities are hiring designers to create planned communities that provide a neighborhood atmosphere that many areas have lost. These planned communities often resemble older neighborhoods since all the houses are located close together. Most of the homes have large front porches where people can gather and visit with each other.

Privacy. While everyone needs to have friends to interact with, individuals also have a need for privacy. Everyone needs to be alone from time to time. Because the stress of life is so great, it helps our mental health to be able to get away from other family members. Privacy is necessary to allow individuals to relax, think, daydream, or work.

Houses can be divided into zones. Bedrooms are the rooms that are considered part of the private zone. Many children live in homes where they do not have a room to themselves. Privacy can still be achieved by arranging the furniture to help promote privacy or even by using room dividing screens.

In Victorian times, many homes had a library or a study that provided an area of privacy. Today, many homes are returning to that trend. Because many people work out of their homes these days, it is necessary for some individuals to have a home office in which to work.

Individuality. Most people have a need to express themselves in a unique way. People do not all want to live in a home just like everyone else. They have a desire to personalize their homes and the spaces within their homes. People's individual tastes, attitudes, values, and personalities reveal to others who they really are.

Lifestyles determine the types of houses in which individuals choose to live. People who are very casual may choose to have a home that does not have a formal dining room because they find that arrangement too formal. Also, people have different tastes in styles. Some people want a home that is very traditional in style, perhaps Georgian or Federal. Some people are much more modern in the types of houses they prefer. Many families prefer a natural lifestyle and would choose a rustic log cabin in the woods.

People often use housing as a status symbol. As people achieve more wealth, they want to express their financial success with larger homes. Some people choose a large home to impress others. Most people prefer to choose a home that fits the type of lifestyle they prefer and fits the family's needs.

Creativity. Another psychological need people have is for creativity. Individuals want to use their imaginations to create an original space. By applying a little imagination, people can create an original look in their homes.

Some people want to design their own homes, or they enjoy buying older homes and remodeling them. Selecting furnishings, patterns, and colors requires imagination. Many people express their creative talents in their choice of accessories and artwork. Furniture arrangements can also reflect a person's imagination.

◆ Essential Questions: ◆
Human Needs for Housing

1. How are our physical needs affected by housing?
2. How are our psychological needs affected by housing?
3. How is individuality reflected in housing choices?

SELECTING HOUSING TO MEET INDIVIDUAL NEEDS

Physically and psychologically, people may have the same basic needs, but many individuals also have additional needs. A person's stage of life, special needs, and family size also affect housing needs.

Housing Needs Through Family Life-Cycle Stages

While some families enjoy moving to a larger home as the family grows, many people prefer to live in a home that will grow with the family throughout all the life stages. The family life-cycle stages are: the beginning stage, the childbearing stage, the parenting stage, the launching stage, the mid-years stage, and the aging stage. Figure 1.1 gives explanations of the family life-cycle stages.

In the beginning stage, a couple gets married and they may not be ready to buy a home or cannot afford a down payment to purchase a home. They may choose to rent a home or an apartment. With just the two of them and newly married, they may not have acquired a great deal of furnishings. Generally, housing with one bedroom is sufficient.

After the couple has been married for a few years, they may feel that they are ready to start a family. When this occurs, the family is now in the childbearing stage. The couple may decide that they are ready to purchase a home. They must decide what features they will need for their family. Perhaps the husband wants to buy a home large enough for the size of family that he wants. He may even want to purchase a home that has four bedrooms. If they have two children then they would have an extra room to use as a guest bedroom or study. When the couple is choosing the home, they may wish for the bedrooms to be large enough so that the children will not outgrow their rooms.

The couple may also decide that they do not want to buy a two-story home because they want to live in this home as they age. The stairs in a two-story home can be a problem if one spouse becomes disabled. Also, they may look for bathrooms that could easily be adapted if either of them were ever confined to a wheelchair.

This is what it means to buy a home that grows and changes with the family. It is good planning to buy a home that will go into the future.

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Family Life-Cycle Stages

Beginning Stage	A married couple with no children.
Childbearing Stage	Addition of children to the family.
Parenting Stage	A family with children between the ages of six and twenty.
Launching Stage	The time when the oldest child leaves home until the last child leaves home.
Mid-years Stage	The children are grown and living elsewhere and the family size returns to one or two people.
Aging Stage	Covers the time of retirement until the death of both husband and wife.

⇨ *Figure 1.1*

Special Needs

Many people who buy homes have someone in their family that has a special need. Perhaps someone is confined to a wheelchair or perhaps a member of the family is deaf. These are needs that can be accommodated. The hearing-impaired person can be alerted if there is a fire by a fire alarm that lights up rather than just by sounding an alarm. If the family is building a new home, it is easier to solve some of these issues initially by making all the doorways at least three feet wide and by designing showers that wheelchairs can easily be rolled into. Lowering cabinets and leaving some open underneath enables the person in the wheelchair to easily get up to the sink or counter.

Universal Design

Older adults and the disabled are not the only people with special housing needs. Every family at some time or another may find their housing is unsuitable for every family member. For instance, a child with a broken leg may find it impossible to climb stairs. A tall adult may have a hard time cooking in a kitchen with standard counter heights because they have to bend over too far. A short adult may have a hard time performing tasks like mixing or kneading dough because the counters are too high in the mixing area.

Until recently, homes in general were designed and built for the average person. People who had different needs had to get use to being inconvenienced in their homes. Many designers today have adopted a different approach known as ***universal design*** – designing homes to fit individuals who have a variety of physical abilities and needs. When homes are designed universally it is less likely that the family members will have to have areas adapted in the future.

Some ways to design universally are: use lever-type door knobs, alter cabinet heights in the kitchen so that some cabinets are lower and some are taller, and build flexible shelving so that the shelves can be lowered or raised depending on the items to be put on the shelves.

◆ ***Essential Questions:*** ◆

Selecting Housing to Meet Individual Needs

1. At which stage of the family life cycle does the purchase of the first home often occur?
2. How does universal design benefit homeowners?

CURRENT TRENDS

The 1970's seemed to be a time when people wanted to live in large metropolitan areas. A 1980's survey showed that people were moving away from cities to smaller communities.

While at one time condominiums were being built a great deal, a home ownership survey conducted in 1983 by the US League of Savings Institutions shows that condos are not the chosen housing of the future. Retirees still seem to favor condos, but most people would rather live in single-family dwellings.

CONDO
Living

In the early seventies there seemed to be a trend toward simplification in order to provide more economical housing. However, today people seem to want the extras that they have come to enjoy, such as large master bathrooms, a separate family room, a large kitchen, and others.

Market Demands

With the changes in the market, inflation, high interest rates, and rising energy costs, consumers have to be more knowledgeable about the type of housing that they buy. Current consumer demands in housing include the following:

- Buyers appear to be better educated and are asking more questions before they are purchasing.
- People are more conscious about being sure that they are getting their money's worth when buying a home.
- Individuals buying a home are more concerned about security.
- A nice location is an important consideration to homebuyers.
- Buyers are interested in homes with energy-saving features.
- Buyers want homes that fit their lifestyle.
- Buyers want homes that offer labor-saving devices such as dishwashers, have low maintenance, and provide water-saving devices like shower heads, dishwashers, and toilets.

Trends in Home Design

It is always hard to predict what future housing will be; however, there seems to be a trend toward factory-made housing or manufactured homes. Many houses are made from prefabricated parts that just need to be assembled, almost like a kit. ***Manufactured homes*** seem to be gaining more popularity since building costs and the cost of materials are so expensive.

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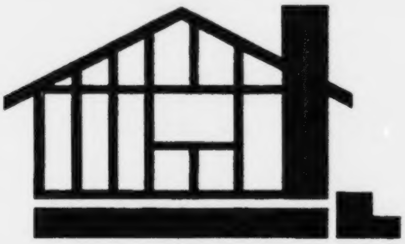

Some architects and builders forecast that in the future people will build houses that have fewer but larger rooms. Floor plan designs in new homes will be more flexible so that spaces can be altered easily to provide more room for entertaining.

As technology becomes more advanced, technological innovations are on the forefront of the housing industry. Security systems are more elaborate. The wealthy are building homes that accommodate a media room with large screen or projection screen televisions. Appliance technology continues to make things easier for the homeowner.

Another trend that seems to be apparent, at least in Texas, is the desire to build homes that have tall ceilings. Nine-foot ceilings seem to be more popular than eight-foot ceilings but many are building homes with ten-foot ceilings or taller. Since heating and cooling systems are much more efficient these days, slightly higher ceilings do not seem to have too great an impact on utility costs.

Other Trends

There seems to be a trend in the use of green design in housing construction in some larger cities that are concerned about ecology. ***Green design*** is the design and construction of structures using environmentally-friendly or recycled materials. Ecology is the science of interactions and relationships between living organisms and their environments.

Trends in housing materials include the use of hard surface flooring such as tile, wood, or scored concrete, and little or no soft surface such as carpet and vinyl. New wall materials include straw bails that are tied tightly and sprayed with stucco on the interior and exterior walls.

Light-colored metal or tile are the primary roof materials of the future. White or light-colored roofs reflect heat. While metal roofs do absorb heat, they cool off quickly when the sun goes down. Metal roofs and tile roofs are more expensive initially but since they last a lifetime, they are more economical.

New trends in landscaping include homes with zero-scaped yards. ***Zero-scaped yards*** are planted with slow growing grasses and ground cover that does not need mowing and needs very little water. Therefore, these yards require very little maintenance or upkeep. To conserve water in the future, homeowners will have tanks to catch rainwater to use for watering plants and lawns.

◆ *Essential Questions:* ◆
Current Trends

1. What are three examples of current consumer demands in housing?
2. What trends in housing are forecasted for the future?

TECHNOLOGY IN THE INDUSTRY

The housing industry of today relies heavily on technology and technological advancements to improve accuracy, speed, and efficiency in all aspects of project management. ***Technology*** involves applying knowledge through the use of inventions or methods to improve a process. Thus, the use of technology in the housing industry is critical if designers and builders are to stay abreast of the changes and advances in products and design and are to stay competitive in the housing business.

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Advances in equipment technology has certainly had an impact on persons working in the housing industry. High-speed computers, design and drafting software programs, high-speed, high-resolution plotters (automated drawing machines), digital scanners, and DSL Internet connections have all brought this industry to a new level. These machines perform a multitude of tasks with speed and accuracy that were once extremely time consuming.

Computer Applications

A variety of computer software applications and the Internet are used by professionals in the housing industry to perform a variety of operations which include the following:

- design, analysis, and computations
- structural analysis and computer simulations
- analysis and selection of building and construction supplies
- project management (client services, communications, planning and scheduling, cost estimates, bids, database storage for project data, and financial management)
- selection of interior furnishings and accessories
- virtual reality models

Due to the dependence of professionals in this industry on technology, individuals interested in careers in housing should enroll in education and training programs where they can learn these skills.

CAD and CADD

Computer-aided design (CAD) and ***computer-aided design and drafting (CADD)*** programs have greatly influenced the work of interior designers and architects. These software programs enable these professionals to perform design and drafting tasks with great speed and accuracy. In addition, these programs allow them to visually communicate end results with clients as never before.

In addition to housing design and planning, CAD and CADD programs are also used in landscape planning and detailed kitchen and bath design and remodeling. These programs are used by designers and architects to: do technical drawings to scale enhanced with detailed symbols; do drafting, elevations, and computer-simulated rendering; do projections of proposed spaces; and, add color to layouts. Specialized virtual model software enables the designer or architect to actually take clients on visual walk-throughs of proposed structures. In addition, all these details are stored in memory and thus can be revised, modified, and used again for future projects if desired.

Advantages of Technology

The advantages of new technology in the housing industry are many. First and foremost, a great deal of money is saved with CAD and CADD systems through efficient use of time and accuracy in design and drafting and computation of yardage for interiors. Another advantage of these programs is the quality of technical drawings and the ability to communicate with clients through a variety of visual presentations.

The Internet is another advantage by enabling housing professionals to conduct research and access information related to laws, regulations, codes, and products without leaving their offices or spending hours on the telephone. Thirdly, computer systems have improved the business management area of the housing industry. Tasks related to recordkeeping, financial management, payroll, and communications with clients and wholesalers have all been streamlined due to technology associated with computer systems. In addition, FAX machines, fiber optic networks, and advanced telephone systems have changed the way business is conducted in the housing industry.

◆ ***Essential Questions:*** ◆
Technology in the Industry

1. How has technology impacted the housing industry?
2. What types of operations are performed by computer applications used by professionals in the housing industry?
3. What tasks are performed by CAD and CADD programs?
4. What are the advantages of technology in the housing industry?

ETHICS

Workers in the housing and furnishings industries are expected to follow a code of behaviors and attitudes referred to as ***professionalism***. Qualities of professionalism include a positive attitude toward the job; a willingness to work hard; an ability to work well with others; an eagerness to learn; and a dedication to quality.

Ethics are described as the moral conduct that is expected of all persons working within a profession. It includes the knowledge and practice of right and wrong, confidentiality, and moral behavior. Ethical behavior involves honesty, integrity, and respect for self and others.

Ethics are the principles and standards of conduct that govern a profession, business, or group of people. Many professional groups or businesses have a ***code of ethics***, a written set of standards that define ethical practices within the industry. As a member of the group, a person is asked to follow the standards of the organization.

Employees in the housing and furnishings industries are engaged in a variety of tasks that require ethical behavior. In any job, there are many opportunities for an employee to choose between ethical and unethical behavior. For example, salespeople are often responsible for large sums of money. Handling the employer's money in a responsible manner and ensuring that the standards of the business are followed shows ethical behavior. When a company sets and enforces policies, employees find it easier to make ethical decisions.

Honesty, moral integrity, and reliability are traits that employers and customers expect from employees. The personal actions of employees affect the reputation of the business and its relationship with customers. In addition, each employee's personal actions affect relationships with co-workers. Examples of ethical violations in the housing and furnishings industry include the following:

- failure to follow safety and sanitation procedures, thus risking the safety and well-being of employees and customers
- purposely overcharging, undercharging, or misrepresenting charges to customers in person or in writing
- dishonesty in reporting income, including commissions
- misrepresentation of education, training, or work experience on resumés, job applications, or in pursuit of a promotion

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Management should serve as a role model for employees in providing an example of ethical behavior. If a supervisor is involved in unethical business practices, he or she sends a message to employees that unethical behavior is acceptable or will be overlooked. By setting positive ethical examples, by carefully screening employees for ethical practices, and by taking prompt action when unethical behavior occurs, management can develop a strong ethical team.

◆ Essential Questions: ◆
Ethics

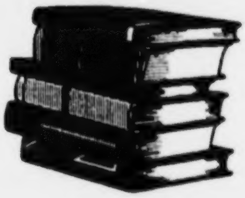
1. Why are ethics important in housing and furnishings occupations?
2. What are some examples of ethical practices?

LEGAL ASPECTS OF THE HOUSING AND FURNISHINGS INDUSTRY

Generally, all laws and regulations that relate to the housing and furnishings industries are the responsibility of the ***Federal Trade Commission (FTC)***. It is the responsibility of the FTC to prevent unfair and deceptive trade practices, to protect the ultimate consumer, and to regulate segments of the industry itself.

Codes, Standards, and Regulations

Codes, standards, and federal regulations serve to regulate the designing and building of structures, including the interior, exterior, and the structure itself. ***Codes*** are a group of ordinances, regulations, and other requirements prepared by various organizations associated with the housing industry. These regulations are intended to provide consumers with safe and functional structures where they can live, work, and play.



Building codes can be traced back to the 18th century BCE in Babylonia. At that time, laws governing buildings were called the Code of Hammurabi and made the builder responsible for the safety of the houses he built. If one of the houses fell down and someone was killed, the builder was put to death (Harmon and Kennon, 2001). In the United States, the first codes date back to 1625 and were written for fire prevention.

It is important to note that there are hundreds of codes in existence today. Each geographic jurisdiction determines which codes it will follow. Formerly, there were three "model" building codes that were most commonly used. These are the BOCA National Building Code (NBC), the Standard Building Code (SBC), and the Uniform Building Code (UBC). However, in the year 2000, these organizations no longer published their separate code publications, but joined together to develop a single set of codes known as the International Building Code (IBC). Due to this change, product manufacturers are expecting a reduction in product development costs, since manufacturers will no longer have to meet so many different guidelines.

Textile Product Labeling for Interiors

The ***Textile Fiber Products Identification Act*** was passed in 1960 and amended in 1986. The act covers all fibers except those already covered by the Wool Products Labeling Act. The following information, in English, is required on the label of most items, including apparel, outer coverings of furniture and mattresses/box springs, bedding, and toweling.

1. The percentage of each natural or manufactured fiber present must be listed in the order of predominance by weight. If a fiber or fibers represent

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less than 5 percent of the item, the fiber(s) will be listed as "other."

2. The name of the manufacturer or the company's registered number, such as WPL or RN, must be stated.
3. The generic name, or the name of a family of fibers all having similar chemical composition, must be listed. The first time a trademark appears in the required information, it must appear in immediate conjunction with the generic name of the fiber.
4. The name of the country where the product was processed or manufactured must be stated. The country of origin is identified as the country where the item was assembled. For example, if the most labor-intensive parts of an upholstered chair were assembled in Jamaica, but the chair was finished in the U.S., the label would read "Made in USA of components made in Jamaica." For fabrics, country of origin refers specifically to the country where the fabric was finished.

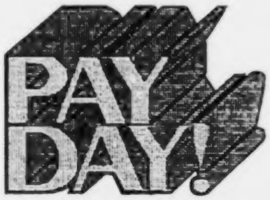
The ***Wool Products Labeling Act of 1939*** (amended in 1986) was designed to protect consumers, as well as producers, manufacturers, and distributors, from the unrevealed presence of substitutes and mixtures and to inform the consumer of the source of the wool fiber. Along with textile products used for apparel, this act covers textile products used for interiors such as carpets, rugs, mats, and upholstery. The term fur fiber can be used for the fiber from any animal other than sheep, lamb, Angora goat, cashmere goat, camel, alpaca, llama, and vicuna. The fiber produced from those animals can be referred to as wool. The FTC defines the terms that appear on the labels of wool items as follows:

- ***Wool*** - new wool or wool fibers reclaimed from knit scraps, broken thread, and noils.
- ***Recycled wool*** - scraps of new woven or felted fabrics that are shredded back to the fibrous state and used again in the manufacture of woolens.
- ***Virgin wool*** - wool that has never been processed in any way; thus knit clips and broken yarns cannot be labeled virgin wool.

Laws Relating To Employment

Another group of laws affecting the housing and furnishings industry is laws regulating employment, salary, and benefits. Federal, state, and local governments have laws that control employment, salary, and benefits of employees. Some of the federal laws related to employment concerns of housing and furnishings operations are listed below.

Fair Labor Standards Act. The ***Fair Labor Standards Act*** is also known as the wage-hour law. Applicable to other types of businesses as well as housing and furnishings operations, this law regulates minimum wages, working hours, overtime pay, record keeping, and child labor standards. Businesses that have an annual gross sales volume of $500,000 or are involved in interstate commerce are subject to this law. Interstate commerce refers to business conducted in more than one state.



Social Security. Social security is a federal program which provides benefits, most of which are related to retired people and the survivors of wage-earners. Payments made to social security are deducted from the employees' wages by the employer during the years of employment.

Income Tax. ***Income tax*** is money collected from an employee's wages if the wages go above a stated level which is established by federal law. Several forms must be completed by the employee to comply with federal tax laws. These forms include the ***Employee's Withholding Allowance Certificate (Form W-4)***. The information contained on this form helps the employer determine how much income tax to withhold from each paycheck.

Wage and Tax Statement (Form W-2). ***Wage and Tax Statement (Form W-2)*** is given to the employee in January of each year. This form shows the total wages received from an employer for the year. Federal, state, and local income tax paid will also be indicated as well as the amount of social security tax withheld. Social security tax is referred to as ***Federal Insurance Contributions Act (FICA)***. The information contained on Form W-2 will be used by the employee in filing an income tax return.

State Labor Laws. The Fair Labor Standards Act allows each state to establish its own labor laws to meet the provisions of the act. While state laws will differ from state to state, some of the areas covered by state labor laws include the following:

- ***Wage deductions*** - regulations that allow employers to deduct union dues, insurance premiums, credit union contributions, charitable contributions, and similar employee benefits.
- ***Wage statement*** - a statement that must be given to the employee with every payment of wages. This statement must show the gross wage, deductions, and the net wages. Other information is optional.
- ***Child labor laws*** - laws regulating the age at which minors under the age of eighteen may work at any job.
- ***Worker's compensation*** - an insurance program designed to provide injured workers or the survivors of workers killed on the job with certain benefits. Worker's compensation is a state-regulated program; the premiums are paid totally by the employer.
- ***Unemployment compensation*** - a federal or state insurance program designed to provide income for the employee who is experiencing a job loss and is actively seeking new employment. The employer pays premiums to this insurance program.

LAW

Security in Employment. ***Equal Employment Opportunity (EEO)*** is the term which includes laws and regulations prohibiting discrimination and/or including affirmative actions. Major federal laws related to equal employment opportunity include the following:

- *Title VII of the Civil Rights Act of 1964* - forbids discrimination on the basis of race, color, religion, gender, or national origin. ***Sexual harassment*** is a form of discrimination.
- *Age Discrimination in Employment Act of 1967* - forbids discrimination against employees 40-69 years of age.
- *Pregnancy Discrimination Act of 1978* - forbids discrimination against employees due to pregnancy, childbirth, or related medical conditions.
- *Americans with Disabilities Act (ADA) of 1990* - forbids discrimination against persons with physical or mental disability or the chronically ill.
- *Family and Medical Leave Act of 1993* - gives employees up to 12 weeks unpaid and job protected leave per year for themselves or spouse, parent, or child with a serious health condition.

Compliance

Information pertaining to laws governing employment issues, such as minimum wages, may be obtained from local, state, and federal departments of labor. State employment commissions can also provide current information on federal and state regulations as well as updates on employment-related laws.

Policies and procedures are often used to develop ways of complying with laws that affect business operations. Policies and procedures must be kept current with any change in the law. Employees must be kept aware of these laws and any changes that affect their employment status. Clearly written policies and procedures related to employee and customer safety are also necessary.

◆ Essential Questions: ◆
Legal Aspects of the Housing and Furnishings Industry

1. Why are building codes important in the housing industry?
2. Why are textile labeling laws important?
3. What is the purpose of the federal laws related to security in employment?
4. What are labor laws? Give two examples of labor laws.

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Chapter Highlights

- Housing that has been built in the past can be put into three categories, natural shelters, portable shelters, and permanent shelters.
- Psychological needs are needs that are related to our emotions and our thoughts. These needs are love and acceptance, privacy, individuality, and creativity.
- Physically and psychologically, people may have the same basic needs, but many individuals also have additional needs.
- Many designers today have adopted a different approach known as universal design – designing homes to fit individuals who have a variety of physical abilities and needs. When homes are designed universally it is less likely that the family members will have to have areas adapted in the future.
- Some architects and builders forecast that in the future people will build houses that have fewer but larger rooms. Floor plan designs in new homes will be more flexible so that spaces can be altered easily to provide more room for entertaining.
- Qualities of professionalism include a positive attitude toward the job; a willingness to work hard; an ability to work well with others; an eagerness to learn; and a dedication to quality.
- Ethical behavior involves honesty, integrity, and respect for self and others.
- Honesty, moral integrity, and reliability are traits that employers and customers expect from employees. The personal actions of employees affect the reputation of the business and its relationship with customers.
- Generally, all laws and regulations that relate to the housing and furnishings industries are the responsibility of the Federal Trade Commission (FTC). It is the responsibility of the FTC to prevent unfair and deceptive trade practices, to protect the ultimate consumer, and to regulate segments of the industry itself.
- Codes, standards, and federal regulations serve to regulate the designing and building of structures, including the interior, exterior, and the structure itself.
- Another group of laws affecting the housing and furnishings industry is laws regulating employment, salary, and benefits. Federal, state, and local governments have laws that control employment, salary, and benefits of employees.

Chapter 2

Career Opportunities in the Housing and Furnishings Industry

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

14A Determine preparation requirements for various levels of employment in a variety of careers in the housing, furnishings, and equipment industries.

14B Analyze the future employment outlook in the housing, furnishings, and equipment industries.

14C Describe entrepreneurial opportunities in the housing, furnishings, and equipment industries.

Chapter Vocabulary

apprentice
apprenticeship
architect
building contractor
buyer
capitalism
career goal
Cooperative Extension Service
corporation
entrepreneur
entry-level jobs
floriculture
florist
franchise
franchisee
franchiser
free enterprise
general partnership
grower
interior designer
limited partnership
networking
professional level positions
refinisher
retailer
sole proprietorship
upholstery
wholesaler

A ***career goal*** can be defined as a profession or occupation that a person trains for and pursues as his or her life work. It is possible to have more than one career goal. It is wise to gather as much information as possible before making any career decisions. Skills and interests should be evaluated before a career goal is selected.

Building For Your FUTURE

A person can learn about different careers in many ways. A potential employee should talk with and possibly observe people who are currently working in a field of interest. Talking with others about the rewards and demands of their careers can be very beneficial in the job selection process. Actually working in different areas of interest is an excellent way to evaluate skills and interests in a particular area. School counselors and teachers also can be beneficial by recommending courses or literature in the career areas that seem desirable.

In order to seek the most suitable employment, individuals must be aware of the many varied positions and job opportunities that are available. It is also important to be aware of the duties and tasks that are performed in the various occupations. This knowledge enables individuals to select an occupation that is most suitable for their skills and interests. Figure 2.1 lists criteria that individuals can use when evaluating career opportunities.

There are many careers today that are part of the housing and furnishings industries. Table 2.1 lists examples of careers and notes the education and training required for entry level positions.

Criteria For Choosing A Career

- Educational Requirements
- Experience Required
- Financial Expectations
- Geographic Preferences
- Individual Capabilities
- Job Prospects
- Personal Interests
- Personal Priorities
- Working Conditions

⇨ *Figure 2.1*

CAREERS

The housing, furnishings, and equipment industries offer many exciting and rewarding career opportunities. Some jobs allow people with high school training to be employed while they gain skills and experience. Other jobs require some special training or several years of education. As with other industries, jobs in housing, furnishings, and equipment industries are classified in different ways because of the tasks performed by employees. Two companies may give different job titles to people with similar job responsibilities. Some companies may require special training not required by other companies.

⇨ *Table 2.1*

Career Concentration: Environmental Design

Examples of Family and Consumer Sciences Career Opportunities

ENTRY
High School Diploma

- Carpet Cleaner/Installer
- Color Consultant
- Draftsperson
- Furnishings Sales Associate
- Housekeeping Aide
- Interior Design Aide
- Showroom Assistant

TECHNICAL
Postsecondary Education

- Associate Manufacturer's Representative
- Display Designer
- Draftsperson
- Drapery/Upholstery Estimator
- Flooring Designer
- Furniture Designer
- Housekeeping Instructors
- Interior Design Assistant
- Interior Designer Photographer
- Journalist for Interiors
- Photo Stylist
- Textile Designer
- Window Treatment Designer

PROFESSIONAL
College / University Graduate

- Architect
- Equipment Specialist
- Facility Manager
- Family and Consumer Sciences Educator
- Family and Consumer Sciences Extension Agent
- Free-lance Consultant
- Furnishings Buyer
- Furnishings Sales Manager
- Government Agency Worker such as in:
  - General Services Administration
  - VA Hospitals
- Illustrator/Renderer
- Interior Designer
- Lighting Designer
- Manufacturer's Representative
  - Contract/Residential, Textile Products/Artwork and Accessories;
    - (Sales Manager/Associate, Public Relations, Customer Services, Showroom Manager, Marketing Specialist, Buyer)
- Set Designer
- Specialty Designer for:
  - Aircraft, Yachts/Boats, Recreational Vehicles, Kitchens/Baths, Restaurants, Hotels, Museums, Healthcare Facilities, Mobile Homes/Manufactured Housing, Retail, Residential, Offices, Schools

Because of these variations in job titles and assigned responsibilities, it is impossible to list and describe all jobs existing in the housing, furnishings, and equipment industries. This chapter includes general information on jobs available in these industries. It is important to recognize that employment situations vary.

When planning a long-term career, it is a good idea to seek a position that allows interaction with people in other departments and other companies. Networking often helps people find the jobs for which they are best suited. ***Networking*** is the process of developing contacts or exchanging information with others in order to further one's career. The sections in this chapter group jobs into categories. Sample job descriptions and types of training required are provided. The job titles listed are only examples of jobs available in the housing, furnishings, and equipment industries. An important part of career planning is gaining knowledge of job alternatives available.

Computer technologies have reshaped the housing and furnishings industries in nearly every aspect of the business. These advances have increased the variety and availability of products, shortened production time, and improved design and manufacturing procedures. Additionally, technology has eliminated many time-consuming manual operations in every facet of the industry.

The Internet brings to both industry and consumers many new ways to find products and information. There are many informational and educational Web sites related to the housing, furnishings, and equipment industries.

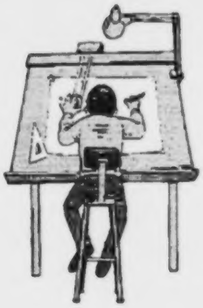
As with any other industry, some jobs in the housing, furnishings, and equipment industries do not require special training. These jobs are called ***entry-level jobs***. Other jobs require advanced training that may be received through a vocational school, a college, or an apprenticeship. An ***apprentice*** is trained by working with another person who is skilled at a particular job. In other situations, an employee may be hired in an entry-level position. After gaining experience and skill, the employee may be promoted to another position in the business.

Some jobs are only available to a person who has an associate degree, which requires completion of two years of college. Other positions require a bachelor's degree, a degree received when four years of college are completed. There are some schools that offer one to three-year programs that train people in specialized fields such as floral design. In some cases, employers are interested in hiring people who have skills in a specific area and who have a certain amount of work experience in the area. Other positions may require a master's degree or doctoral degree from a university. These two degrees are called graduate degrees and require several years of study after graduation from college with a bachelor's degree. Jobs that require a college education or other extensive specialized training or experience are usually classified as ***professional level positions***.

UNIVERSITY

Building and Related Careers

There are many careers relating to the actual building industry. It takes many people doing many different jobs to make it possible for a house or building to be constructed or to remodel a structure. Some of the people who are responsible for making it possible to build a new structure are architects, building contractors, inspectors, carpenter apprentice, electrical apprentice, and roofer.



An ***architect*** is a person who designs and draws new homes and buildings from the ground up. Architects draw the plans, budget the job, specify materials, and oversee the construction. Architects also use computer-aided design and drafting (CADD) software programs for their drawings so that they can make changes more quickly. CADD programs enable architects and designers to produce technical drawings, drafting, and illustrations of projected space.

A ***building contractor*** is the person who oversees the construction crew, schedules the various jobs that must be done, and hires the necessary people, such as the concrete crew, carpenters, and electricians. Each of these individuals is referred to as a sub-contractor. The building contractor has the most headaches of anyone on the building crew since he or she must schedule when each job needs to be done. Delays are just part of building. Items are often back ordered, shipped incorrectly, or even damaged in shipping. All of these problems cause the various workers to be delayed and thus the entire project is delayed. Weather also plays a part in delaying the construction of a building.

Interior Design and Related Careers

An ***interior designer*** is a professional with a bachelor's degree in interior design, design, or art from an educational institution that offers these degree programs. Interior designers need knowledge and skills in a variety of areas related to: architectural drafting, application of the elements and principles of design; space planning and zoning; floor plans; construction and materials; and interior components and treatments. Interior designers may work on residential design, nonresidential design (includes commercial and institutional facilities), or both. Individuals working in the interior design field need a creative mind and a flair for working with design trends and techniques.

interior design

Today, interior designers need computer skills, especially skills in using computer-aided design (CAD) and computer-aided design and drafting (CADD) software programs. CAD and CADD programs enable the designer to do drafting and produce technical drawings and projections of the proposed space.

Interior designers also must have effective interpersonal skills as planning and designing environments for others involves many human factors. Ultimately, the goal of interior design is for the individuals living or working in the environment feel safe, comfortable, and productive.

A designer cannot rely completely upon the look of a design after it is finished. A designer also must consider a design's function and durability. Achieving success on a project requires an understanding of the

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procedures needed to transform the concept into a design that satisfies the client financially and emotionally. Thus, the designer must be aware of his or her own limitations in technical and organizational skills. Once these limitations are identified, a designer should consult resources and other experts to provide information or services needed. It is impossible for a designer to know everything about every aspect of interior design and home furnishings. Therefore, the designer should seek help from experts rather than try to do something he or she cannot do. In the furnishings industry, a designer's attempt to perform a task beyond his or her capability often leads to disaster.

The designer needs competent and reliable resources. She or he needs to develop good working relationships with other experts in the field who are employed by furniture companies, painters, and workrooms. It is also important for a designer to have a reliable assistant.

Retail Furniture Careers

An interior design assistant employed in a furniture store or department store might have various opportunities. He or she might work with a variety of items including wall coverings, floor coverings, window treatments, accessories, paintings, and furniture. Tasks assigned to a person in an interior design studio or department store depend on his or her personality and abilities.

Entry-level Tasks. An interior design assistant might be responsible for the following tasks in a furniture store or home furnishings department store:

- keeping the catalogs in correct and neat order
- cleaning and organizing accessory items
- dusting tables, chairs, and other items
- answering the phone and taking messages
- setting up or assisting with displays
- delivering merchandise
- shipping and receiving merchandise

Many department store jobs are more specialized. Employees may work with the following items or departments:

- china, silverware, and crystal
- lamps and wall hangings
- gifts and accessories
- draperies, bedspreads, and pillows
- furniture

Because there are fewer employees in a small business, an interior design assistant would perform a greater variety of tasks. A large firm or store would require more specialization. For example, one person may be responsible for unpacking and marking prices on merchandise. Others would be employed to make store and window displays. Still others would be responsible for performing clerical duties. Some may assist a salesperson.

An interior design assistant in a furniture store or department store probably will not be a salesperson, but he or she will learn about the merchandise being sold. If an assistant is interested in becoming a salesperson, knowledge about the merchandise is beneficial.

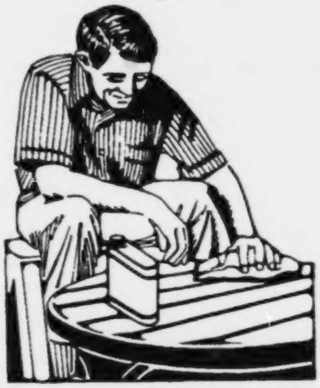
In sales, opportunities include jobs as sales clerks, department heads, owners, and managers of stores. A person might be employed as a stock clerk with the responsibility of taking care of merchandise that is stored to be sold and possibly work his or her way up to head of stock. A person might become the assistant buyer then work toward becoming the buyer. The ***buyer*** is the person who purchases the merchandise to be sold by the store. Advancement for a person is dependent upon what a person enjoys doing and what he or she does well.

Upholstery and Refinishing Careers

Many opportunities are available to the design assistant who has an interest in furniture upholstery and refinishing. ***Upholstery*** is the art of covering furniture with padding and decorative fabric. An upholsterer's main purpose is to make a chair or other piece of furniture comfortable. A qualified upholsterer is capable of completely constructing a chair or other item. Few types of mechanical equipment are used.

In addition to making furniture, an upholsterer may also repair and recover old furnishings. Here again, the upholsterer does not need much equipment or space. At one time, upholstery was only practiced by individuals who served an apprenticeship. An ***apprenticeship*** is an agreement to work with a craftsperson for a length of time in return for instruction in learning the skill or trade. This is no longer always true. Today, some people may learn upholstery skills through an apprenticeship or they may attend technical schools to learn the trade. Time and practice is needed to become a successful upholsterer.

The prices of new furniture have risen sharply in recent years. These price increases have created a demand for furniture refinishing. A ***refinisher*** is a person who strips off the old finish from a piece of furniture and replaces it with a new finish. Replacing damaged parts is also part of the refinisher's job. The cost for refinishing a piece of furniture is much less expensive than the cost of purchasing a new one. Many individuals decide to refinish an existing table or chair rather than to replace it.



The art of refinishing furniture held an honored place among craftspeople for many centuries. Good refinishers are not as easy to find as they once were. Refinishers should have knowledge of woods, furniture construction, joints, stains, paints, and protective finishes. A refinisher may specialize in furniture reconstruction, new construction, or refinishing. Many refinishers learn their skills during an apprenticeship program.

Entry-level Tasks - A design assistant may serve an apprenticeship to learn the trade or he or she may be hired by an upholsterer to perform simple tasks. An assistant may deliver and pick up furniture, stock supplies, remove old fabric from furniture, and perform some cleaning duties. These tasks allow an assistant to learn all aspects of the business. Once these tasks and duties are performed successfully on a consistent basis, a design assistant may be taught new tasks.

A design assistant employed with a refinisher may help with various tasks. He or she may keep the business clean and neat, restock supplies, strip off old finish, and pick up and deliver furniture.

Paint, Wallpaper, and Floor Covering Careers

Many of the opportunities available in a paint, wallpaper, or floor covering store are similar to those in a department store. These stores provide the design assistant an opportunity to work with a variety of products and gain valuable experience.

Entry-level Tasks - A design assistant in a paint, wallpaper, or floor covering business should have a basic understanding of color harmony. He or she should understand the elements and principles of design. Helping mix paints to achieve the color desired requires knowledge of color basics. Many paints are mixed by formula so they can be accurately reproduced.

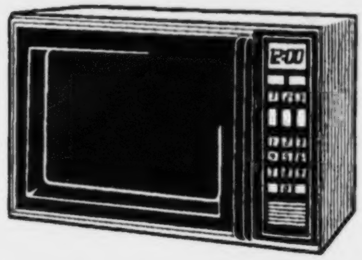
Samples, paint cans, and carpet or wallpaper rolls must be kept in order and may need to be rearranged for an employer's cataloging system. This could be a responsibility of a design assistant. Each store has its own system of displaying its products. The design assistant may be asked to set up these displays. The assistant also may help the painter, wallpaper hanger, or carpet installer gather equipment and perform duties.

Housekeeping responsibilities, such as sweeping, dusting, and vacuuming, also are part of the job. An alert employee should try to help keep the areas within the store neat, clean, and orderly.

Equipment and Appliance Careers

The fields of home equipment and appliances have changed dramatically since the early 1900s. This change has created more job opportunities and a greater variety of jobs. The number of major appliance manufacturing companies in this country has decreased in the past twenty years. This decrease results from the industry maturing and from companies merging or being dissolved. In 1916, there were sixty washing machine manufacturers in the United States. Today there are five. Included in these changes is the increase of the number of items in a specific product category. This increase of items gives consumers more models and brands from which to choose.

Appliances may be purchased from home furnishings stores, builders and developers, kitchen appliance dealers, and appliance stores. A design assistant could work in a number of these areas or for an appliance manufacturer. Keeping current on new developments and trends in the appliance area is essential.



Home computers have become an integral part of many homes. Their increased use has prompted manufacturers to create computers with exterior designs that complement various decorating schemes. Computers can be classified as accessories just as are refrigerators, washing machines, and dryers. Computerized home security systems, dishwashers, refrigerators, and other appliances have created new opportunities for careers in the equipment and appliance industries.

Other careers for people interested in computers and the housing industry may include developers of new software programs for the furnishings industry. Bookkeeping programs unique to furnishings businesses also could be developed.

Entry-level Tasks - A design assistant who works in an appliance store may perform many duties. He or she may be responsible for keeping the business clean and neat, stocking supplies, shipping and receiving merchandise, and delivering appliances to homes. An assistant can learn many aspects of the business by performing these and other entry-level duties. It is important to remember that a well-informed, hardworking, and eager employee is a good candidate for promotion.

Floral Careers

Consumers use flowers for special occasions, to decorate, or express feelings. Growers, wholesalers, and retailers make up the parts of the floral industry or floriculture that make this possible. ***Floriculture*** is the growing of plants or flowers to be cut and sold. There are a wide variety of career opportunities available in the floral industry.

A ***grower*** is a person or business that grows flowers and plants. Growers must have knowledge and expertise about how plants and flowers are grown. Growers are located in all parts of the country. These establishments are primarily small and privately owned, although some are large organizations.

A design assistant should have some general knowledge about plants. He or she should understand how plants and flowers react in different soils; how insects, diseases, and weather affect crops; and how light must be managed. Knowledge of production costs and market prices is helpful. Skill in packaging flowers and plants for safe delivery also is important.

The cultivation of flowers has become more scientific. Those who are interested in this area of the floral business need practical experience and general knowledge. They also need to take courses in biology, horticulture, and business management.

The wholesaler is often the link between the grower and the retailer. The ***retailer*** is the business that sells goods and services to the public. The ***wholesaler*** stocks the products of many different growers and manufacturers and offers a wide selection of flowers, plants, and supplies for sale to the retail flower shop. The wholesaler is responsible for shipping these goods to the retailer and for storing the items when necessary.

The wholesaler must be knowledgeable about current market trends, needs of the retailer, and wants and needs of the public in order to supply the right flowers at the right time. The wholesaler offers flowers grown locally as well as specific flowers grown in distant areas. The wholesaler needs special knowledge about obtaining various flowers throughout the year and keeping them fresh for the market.

Some floral businesses may buy plants and flowers directly from local growers. These businesses would buy floral supplies, such as wire, vases, and floral tissue, from wholesalers.

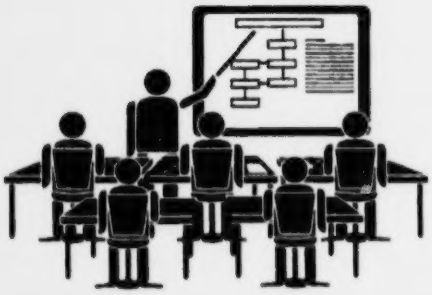
Career opportunities in this area include flower buyers, market consultants, and business managers. Many special abilities in these areas are developed on the job after a person has experience in the business.

A ***florist*** is a businessperson who sells plants and flowers to customers. The retail florist communicates and works directly with people and must have creative talents. The retail florist must be both a businessperson and an artist. Talent and skill in flower arranging and business management are needed to advance in this area of the floral industry.

A florist primarily arranges and designs floral decorations. The florist must know how to buy and price merchandise carefully. He or she also must keep adequate records of inventories and other operating expenses. These records help in planning for future purchases and in ordering for holiday seasons and daily needs. Often a bookkeeper is hired to manage and interpret these records.

Training in floral design is offered in many high schools, colleges, adult education programs, and commercial floral design schools. Practical experience is one of the best ways to learn the skills of floral arranging. Many entry-level jobs are available in retail floral establishments.

Teaching, research, and extension work are also career opportunities in the floral industry. Like other industries, the floral industry cannot continue to grow without research and education. Floriculture laboratories are constantly developing new varieties of flowers. They are learning new ways to control insects, pests, and diseases. Research is also being conducted to learn how to prolong the lives of cut flowers.



People who work for the ***Cooperative Extension Service*** of the United States Department of Agriculture perform a variety of tasks. They conduct research and teach community groups about the care and growth of plants and flowers. Extension work provides opportunities for both teaching and research in floriculture and other fields.

The income earned by employees varies in the many areas of residential and nonresidential furnishings. The same is true of the income of growers, wholesalers, and retailers. Much depends on a person's ambitions, skills, education, creativity, and business sense.

Entry-level Tasks. A design assistant who works in a retail floral business performs various duties. He or she may perform cleaning duties to make the showroom look fresh and neat, deliver orders, restock shelves and supplies, and receive merchandise. An assistant also may perform apprenticeship duties and learn to take orders, send wire orders, make bows, and design simple flower arrangements.

An assistant who works for a wholesaler might be responsible for many duties. He or she may ship and receive merchandise, deliver merchandise, and deal with customers. A person who works for a grower may perform entry-level tasks such as caring for plants and preparing plants and flowers for shipping, and performing housekeeping duties. These entry-level tasks give assistants the opportunity to learn about many aspects of the business that can help them advance in their careers in floriculture.

◆ Essential Questions: ◆
Careers

1. How do architects utilize computer-aided design and drafting (CADD)?
2. What are the duties and responsibilities of interior designers? Write your answer in the form of a job description.
3. What job opportunities are available in the retail furniture business?
4. What is the difference between an upholsterer and a refinisher?
5. What skills do persons working in paint, wallpaper, and floor covering businesses need?
6. What basic knowledge and skills are needed for floral careers?
7. What duties and responsibilities might a design assistant working in a retail floral business perform?

ENTREPRENEURIAL OPPORTUNITIES

An ***entrepreneur*** is a person who owns and operates his or her own business. An entrepreneur usually sells a new product or service. Entrepreneurs are usually hard workers who believe in the free enterprise system. ***Free enterprise*** is the freedom of individuals to organize and operate businesses for profit in a competitive system without governmental interference. Free enterprise is a characteristic of ***capitalism***, the economic system of the United States. Under capitalism, most production means are owned by private citizens. In a free enterprise system, entrepreneurs can earn profits by taking the risk of investing

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capital (cash) in goods used to produce goods or provide services. Capital is usually used to finance items such as furniture, equipment, machinery, buildings, fixtures, operating cash, and supplies. The ultimate goal of an entrepreneur is to make a profit. The entrepreneur risks both failing and losing his or her initial investment.

Most businesses in the United States are organized as a sole proprietorship, a partnership, or a corporation. The ***sole proprietorship*** is a business owned by one person. A ***general partnership*** is a legal business relationship in which two or more individuals share responsibilities, resources, and profits equally. A ***limited partnership*** is a legal business relationship in which, according to a written agreement, some owners have a limited liability for business debts and are not involved in day to day operation of the business. These individuals are sometimes known as silent partners. A ***corporation*** is a legal business relationship in which a group of persons join to create an entity treated by law as a separate individual. Through its officers, the corporation makes contracts, conducts business activities, and assumes responsibility for debts.

One primary goal of businesses is to satisfy consumer demand for goods and services. Business functions include production of raw materials, manufacturing, wholesale operations, and retail sale to consumers. Small businesses are involved in all functions of business, but they primarily provide products and services to consumers through retail sale. At the retail level, many small businesses are franchises. A ***franchise*** is a right or license granted to an individual or group to market a company's goods or services. A ***franchiser*** grants a franchise and offers a proven market strategy for a product, service, or method. A ***franchisee*** is a person or group to whom a franchise is granted. Usually, a franchisee invests capital in exchange for the expertise and widely known product image of the franchiser. Often, the fee includes the cost of inventory with which the franchisee begins business. Some apparel specialty stores are operated as franchises.

In some cases, entrepreneurs develop an idea for a product or service related to housing and furnishings and decide to create a business. It is important for the product or service to be one that is wanted or needed by enough people that the business can survive and eventually make a profit. Some entrepreneurs start their businesses at home and expand later as the businesses grow. An example of an entrepreneur is a family and consumer sciences professional who recognized the need for how-to books for consumers on remodeling or designing a home for homeowners who use wheelchairs. Another example is an individual who opens a design business that serves nonresidential clientele by designing customized workspaces that are comfortable and efficient for employees and help increase productivity.

Successful entrepreneurs are usually characterized by the following traits:

- individualism and initiative
- a pioneering spirit
- willingness to take a risk
- desire for self expression

- persistence
- creativity and inventiveness
- technical knowledge of how to operate a business
- ability to survive financially if emergencies occur
- patience to wait until the business becomes successful
- ambition, energy, and drive
- ability to make decisions
- ability to take full responsibility for decisions
- realistic expectations about the amount and types of work required
- ability to communicate
- resources to survive with lack of income

◆ *Essential Questions:* ◆
Entrepreneurial Opportunities

1. What different types of business ownership options exist for entrepreneurs?

2. What traits do successful entrepreneurs typically possess?

3. What do you think would be the advantages and disadvantages of being an entrepreneur?

Chapter Highlights

- A career goal can be defined as a profession or occupation that a person trains for and pursues as his or her life work. It is possible to have more than one career goal. It is wise to gather as much information as possible before making any career decisions. Skills and interests should be evaluated before a career goal is selected.
- When planning a long-term career, it is a good idea to seek a position that allows interaction with people in other departments and other companies. Networking often helps people find the jobs for which they are best suited. Networking is the process of developing contacts or exchanging information with others in order to further one's career.
- Some of the people who are responsible for making it possible to build a new structure are architects, building contractors, inspectors, carpenter apprentice, electrical apprentice, and roofer.
- Interior designers need knowledge and skills in a variety of areas related to: architectural drafting; application of the elements and principles of design; space planing and zoning; floor plans; construction and materials; and interior components and treatments.
- An interior design assistant employed in a furniture store or department store might have various opportunities. He or she might work with a variety of items including wall coverings, floor coverings, window treatments, accessories, paintings, and furniture.
- Refinishers should have knowledge of woods, furniture construction, joints, stains, paints, and protective finishes. A refinisher may specialize in furniture reconstruction, new construction, or refinishing.
- A design assistant in a paint, wallpaper, or floor covering business should have a basic understanding of color harmony. He or she should understand the elements and principles of design.
- Appliances may be purchased from home furnishings stores, builders and developers, kitchen appliance dealers, and appliance stores. A design assistant could work in a number of these areas or for an appliance manufacturer. Keeping current on new developments and trends in the appliance area is essential.
- Consumers use flowers for special occasions, to decorate, or express feelings. Growers, wholesalers, and retailers make up the parts of the floral industry or floriculture that make this possible.

Chapter 3

Employability Success

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

13A Demonstrate effective verbal, nonverbal, written, and electronic communication skills.
13B Demonstrate effective methods to secure, maintain, and terminate employment.
13C Demonstrate positive interpersonal skills including conflict resolution, negotiation, teamwork, and leadership.
13D Evaluate the relationship of good physical and mental health to job success and achievement.
13E Demonstrate appropriate grooming and appearance for the workplace.
13F Demonstrate appropriate business and personal etiquette in the workplace.
13G Exhibit productive work habits and attitudes.

Chapter Vocabulary

accuracy
artistic abilities
clerical abilities
communication
cooperation
co-worker
etiquette
evaluations
flexible
gracious
impartial
initiative
inventory
loyalty
manipulative abilities
merchandising
observant
professional
running inventory
sample books
self-confident
social abilities
swatch books
tolerant
versatile
wallpaper books

EMPLOYABILITY SKILLS

Employees need many characteristics and skills to be successful. Employers look for these traits and skills when people apply for jobs. Employers also consider these qualities when evaluating employees after they are hired.

To be successful in any job, a person needs to honestly evaluate personal strengths and weaknesses and then work on areas needing improvement. Personal qualities, interpersonal skills, performance of routine tasks, and specialized skills can all be improved through conscious effort.

Effective Communication Skills

Being able to communicate ideas and understand others is a basic skill for dealing successfully with customers, co-workers, and managers in any job. ***Communication*** is the process by which ideas, feelings, and information are shared. In order for communication to occur, a message must be sent and received. Therefore, the sender and receiver are both vital to the communication process. The flow of communication is influenced by various factors including personalities, perceptions, ideas, sensitivities, and communication skills of the sender and receiver.

Verbal and nonverbal communication constantly occurs between people. Each time individuals speak or act, they send a message to others. Facial expressions, appearance, and gestures all send certain messages. In order to communicate what is intended, these messages must be sent in a way that the receiver will understand.

Employers value employees who demonstrate good communication skills. Being successful in a job requires good verbal, nonverbal, and written communication skills. With increased use of computer technology, electronic communication skills are increasingly important to job success.

Verbal communication includes word messages presented to others in person, through writing, and over the telephone. Verbal communication is the most obvious aspect of communicating with customers. The successful employee projects courtesy, sincerity, honesty, and other positive traits through verbal communication. Developing a broad vocabulary, using an appropriate tone of voice, and using correct grammar are important parts of verbal communication. Knowing when to speak, when to remain quiet, and when to refer problems to other employees are also important. Use of the latest slang terms should be avoided when communicating with customers. It is best for employees to use conservative speech when completing customer transactions.

Telephone Communication. Many firms conduct much of their business by telephone. Employees who communicate by telephone with customers have important responsibilities to customer service. Every person calling a business by telephone is a potential customer.

Effective telephone communication skills are needed to secure or maintain employment. Each time an employee answers a business telephone, his or her voice and manner of speaking represent the business. It is important to give the best impression possible to all persons who call. Tone of voice, pronunciation of words, and pitch or intensity of the voice influence effective telephone communications.

It is also important for an employee to be organized and informed when communicating

by telephone. Callers expect to receive information quickly and efficiently. Therefore, putting callers on hold for long periods of time is not recommended. Suggestions for telephone usage are included in Figure 3.1.

Communication with Customers in Person. Both verbal and nonverbal forms of communication are important when dealing with customers in person. Individuals communicate many messages through their gestures and body movements. This type of communication is known as body language. A person's body language often reveals the feeling behind a message more clearly than the words that are spoken. Furthermore, a person's body language can send a false or misleading message to the listener.

Examples of nonverbal communication or body language include facial expressions, hand shakes, posture, movement, hand and arm gestures, sighs, grunts, groans, and other overall body language. In order for communication to be clear, an individual's body language must agree with her or his spoken message. The more a person's body language and spoken words reflect the same message, the better the listener is able to interpret what the speaker means.

In order to maintain positive customer relations, it is important for employees to be aware of nonverbal and verbal forms of communication that are most effective in encouraging customer satisfaction. It may be helpful to practice videotaped role play situations to identify ways to improve communication skills.

When speaking to a customer or co-worker, it is important to use communication skills that make others feel liked and accepted. Use the following basic rules of conversation in order to be a better communicator:

- Avoid talking too fast.
- Do not be afraid of silence.
- Pronounce words clearly.
- Learn to listen to others.
- Avoid total disagreement with customers when they express their opinions.
- Be tolerant of the other person's point of view.
- Avoid monopolizing a conversation by telling every detail of a story.

Listening. Listening is a communication skill that is often overlooked. It is one of the most difficult skills to learn, but it is one of the most important. Messages must be sent as well as received for communication to occur. Therefore, communication fails when a person does not listen to the message sent. The ability to receive a message is as important as the ability to send a message.

Listening is a skill that can improve communication and relationships in every area of life. On the job, listening improves relationships with customers, co-workers, and supervisors.

Listening is not the same as hearing. Both hearing and listening use the ear, but listening involves understanding what is heard. It requires concentration and effort.

To improve listening ability, concentrate on the speaker instead of planning a reply or thinking about personal matters. Avoid the habit of daydreaming instead of listening. Avoid paying attention to distractions such as noises and other conversations. Show interest in the speaker through actions such as the following:

- Look at the speaker. Make eye contact.
- Use body language, such as nodding, to show that the message is being understood.

Suggestions for Telephone Usage

General Guidelines

- Keep important telephone numbers by the telephone. Include numbers for the police, fire department, physician or hospital, emergency service, and personnel of the workplace.
- Become familiar with telephone terms, such as the area code, collect call, and person-to-person call; the local telephone book; and any specific telephone information for the employment situation.
- Keep paper and pencil near the telephone to efficiently.record messages, names, and other important information.
- Speak clearly and distinctly. Do not chew gum, candy, or food while using a business telephone.
- Focus attention on the telephone conversation, and avoid unnecessary interruptions.
- Do as follows when it is necessary to leave the line:
  - –Explain why the caller must be put on hold.
  - –Express appreciation for the person's time when returning.
  - –Check with the caller periodically if he or she must wait for several minutes.

Receiving Calls

- Answer the telephone promptly when it rings.
- Follow company policy and the supervisor's instructions regarding how to answer the telephone.
- Record the names of unfamiliar callers.
- Do as follows when taking a message:
  - –Record the caller's full name. To ensure accuracy, ask the caller to spell his or her name.
  - –Ask for the caller's telephone number. Repeat the number to ensure it has been recorded correctly.
- Be courteous to individuals who have reached the wrong number.

Placing Calls

- Plan before placing a call by preparing a list of items to be discussed. Check each item off as it is discussed.
- Identify yourself and the name of the establishment represented.
- Record important points discussed during the conversation.
- Be courteous and apologize when a wrong number is reached.
- Limit personal telephone calls to emergencies and urgent matters.

⇨ *Figure 3.1*

- Occasionally interject such responses as "I see," "How interesting," or "I'll do that right away."
- If something is not understood, ask questions to clarify the message.

Electronic Communication. Electronic communication tools, such as E-mail (electronic mail), the Internet, and FAX (facsimile) are used daily for business and personal communications between individuals. Electronic communication enables persons to give or obtain a wealth of information in a matter of minutes. Due to the number of computers operating in businesses and homes today, electronic communication has forever changed the way people all over the world communicate with one another.

Abilities Required in Environmental Design Careers

An interior design assistant or sales assistant is expected to be flexible and versatile. A ***flexible*** person is one who is adaptable and can adjust easily from one situation to another. A ***versatile*** person has many abilities and talents. An interior design assistant or sales assistant may unpack new merchandise, plan a window display or store arrangement, take room measurements, draw a floor plan to scale showing the furniture arrangement, make draperies and accessory items, or help upholster a piece of furniture. Special abilities are needed for all of these tasks. These abilities can be placed into four categories: manipulative, artistic, clerical, and social.

Manipulative abilities involve skilled use of the hands and are used in such tasks as constructing draperies or accessory items. ***Artistic abilities*** involve combining elements and principles of design in skillful ways. Example tasks include sketching, organizing merchandise, planning room decors, and creating imaginative uses for fabrics and arrangements of furnishings. ***Clerical abilities*** are used in office tasks such as typing letters, filing catalogs and fabric swatches, answering the telephone, keeping mail logs, removing outdated items from files, addressing mail, and counting merchandise inventories. ***Social abilities*** include getting along with other people and learning to work well with other employees.

The particular area in which a person is employed determines which of these abilities are most important for success. For example, manipulative ability would be essential in drapery workrooms, and artistic and clerical abilities would be more necessary in interior design studios and department stores. The ability to get along with others is essential regardless of the place of employment. This chapter offers suggestions for getting along with others and for maintaining good customer relations, whether greeting a customer in person or talking on the telephone.

Being ***professional*** means giving the appearance of being skilled, informed, and capable of performing a job. Employees should know the policies of the establishment and think carefully before speaking. They should learn how to handle unpleasant or embarrassing situations. If these occur often, an employee should think about his or her appearance and review behavior. The person should make needed changes to avoid unpleasant situations.

An employee should never fail to attend to a client's needs. Being ***gracious*** means treating people with kindness and courtesy. An employee should stand straight, smile, work efficiently, and be polite.

An employee should avoid allowing a customer to wait to be helped. An ***observant*** person pays careful attention to what is happening in his or her surroundings. Employees should pay attention to each customer and try to see that he or she is assisted promptly.

An employee should try not to take the behavior of clients personally. An employee should remain calm when customers are rude, demanding, grouchy, or unpleasant. A ***tolerant*** person is able to endure problems and accepts that others may have different beliefs or behavior. An employee should be pleasant and do everything possible to correct the situation. As soon as possible, an employee should refer each client to the appropriate designer, manager, or office personnel.

Interior design assistants or sales assistants should be ready to work upon arrival. Employees should try to leave troubles at home and not allow personal problems to be displayed to clients or other employees. This indicates a lack of emotional maturity and creates an unpleasant atmosphere. When too sick to work, an employee should stay at home. He or she should call a supervisor early so that a substitute can be found.

An ***impartial*** employee pays equal attention to all customers. Visiting too much with a customer or group may cause other customers to feel that their service is being delayed or neglected. An employee should remember that the customer is the most important person in the store. Lost customers result in lost income and a negative reputation for the business.

A ***self-confident*** person is aware of personal strengths. An employee should learn from mistakes but avoid taking them too seriously. Everyone makes mistakes. Learning to accept criticism and corrections from supervisors shows maturity. A good employee tries to be resourceful and find a way to get the job done even under pressure. He or she completes all assigned tasks.

Appropriate Grooming and Appearance

Good grooming and personal appearance are important factors in achieving job success. The way a person looks affects the way others react toward that individual. The way a person looks also affects the way that individual feels about himself or herself.

All employees can profit from good grooming and appearance. Make a point to learn the dress code for a specific place of employment, including any rules regarding personal appearance. Observe the clothing and appearance of experienced, successful employees, and use them as examples to follow.

It is especially important for employees who meet the public to pay careful attention to having a fashionable and neat appearance. When selling and merchandising interior furnishings, it is particularly important that employees make a good impression on customers. Use the following guidelines to help develop a positive and pleasing appearance:

- It is especially important to select professional attire when working directly with customers in sales positions.
- Choose sensible clothing that is appropriate for the employment situation.
- Select clothing that fits properly.
- Make needed repairs to clothing on a regular basis.
- Check clothing and general appearance before going to work.
- Select sensible shoes that are clean and in good repair.
- Have hair cut or trimmed on a regular basis in an appropriate style.
- Wash hair as needed to maintain cleanliness and style hair daily.

- If female, apply moderate amounts of makeup to a clean face.
- If male, shave and/or neatly trim beard or mustache.
- Keep hands cleaned and nails well manicured.
- Take a bath or shower daily and use a reliable deodorant.
- Maintain proper posture when sitting, standing, and walking.
- Practice good dental hygiene.
- Make a habit of smiling.

Although many physical traits, such as height and basic body type, cannot be changed, every person can develop a positive and pleasing appearance. Rather than worrying about a trait or aspect of physical appearance that cannot be changed, try to improve those that can. Make a plan for self-improvement by identifying positive traits to develop, and then work to put the plan into practice.

Dress Code. Employees are responsible for knowing the dress code of the business for which they are employed. A dress or skirt and blouse are appropriate for a female employed in a design, furnishings, or equipment business. Slacks and nice shirts are acceptable for males. Delivery personnel may need to wear jeans or work pants and an appropriate shirt. Clothes should be neat and presentable at all times. Dress codes vary among businesses. A change of clothes should be kept close at hand for emergencies. Personal neatness and absolute cleanliness are especially important.

Business and Personal Etiquette

Etiquette is the set of rules about the proper way to interact with people. It is commonly referred to as "good manners."

Knowing the rules makes a person much more comfortable in any situation, whether it is a personal or business setting. Observing rules of good manners helps a person project a positive image to others, and it makes others feel more comfortable around that person.

Etiquette covers many of the skills and traits that have already been discussed. Some examples of workplace etiquette include the following:

- Be courteous to co-workers, supervisors, and customers. Show respect and consideration for others. This may involve calling persons by their proper title, using "Please" and "Thank you," and respecting the privacy of persons in the workplace.
- Learn and practice special rules of etiquette, such as how to make introductions, shake hands, respond to invitations, and write thank-you notes.
- Learn good table manners, and practice them until they become a habit. Many employees have occasion to eat with co-workers or supervisors or to entertain a customer at a meal. In those situations, it is important to be comfortable with rules of meal etiquette.
- Learn and observe rules of conduct that relate to a specific place of employment.
- Recognize the diversity of people in the workplace. People in the workplace typically differ in gender, age, culture, and many other ways. Be respectful of differences. Recognize that people think and react differently depending on the experiences they have had.

Productive Work Habits and Attitudes

A successful employee is one who is productive – who gets the job done. Being a productive employee requires learning special skills for specific tasks. It also requires developing good general work habits and keeping an overall positive attitude.

Positive Work Habits. From the first day on a job, an employee should attempt to set good work habits. Practicing good work habits not only makes the job easier for the employee, but it also impresses the employer. Examples of positive work habits include the following:

- Use equipment carefully. This show respect for the work environment and promotes safety.
- Be prompt about completing tasks and stay busy at work.
- Show willingness to learn new or more efficient work techniques.
- Show interest and enthusiasm for assigned tasks. This improves the employee's own attitude and results in a better environment for others.
- Avoid letting yourself become bored and easily distracted.
- Become aware of annoying personal habits such as loud laughing, gum chewing, or fingernail biting. Correct any habits that need to be corrected.

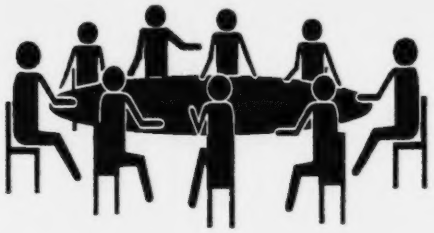
Evaluations are discussions between an employee and employer conducted in businesses to discuss an employee's job performance. They can be formal or informal. A formal evaluation may involve a detailed checklist of standards and expectations involving ethics and personal characteristics of an employee. A formal evaluation may be held every six months, once a year, or at some other set time span. An informal evaluation may not follow any set standard. It may include a supervisor's feedback on a particular task assigned to an employee. Evaluations should result in improved performance or in a change of plans.

Salaries and raises are often based on an employee's evaluation. A good evaluation in some businesses may mean that an employee is allowed to keep the job. This is often true after a trial period of employment. Some businesses may have a pay scale and give set pay increases after each positive evaluation. Other businesses may give salary increases when they feel the employee deserves them.

Teamwork and Cooperation. Employers have said that one of the most important traits they want an employee to have is the ability to work with others. A productive team employee is one who cooperates willingly with others – who is an effective team member.

Cooperation involves willingness to listen to other people's views and opinions and to work toward common goals. Employees should learn and follow the policies of their employers. They should be willing to complete all assigned tasks with a positive attitude. Even if personality clashes exist between two employees, it is important for both individuals to set aside petty differences and work together as well as possible. An employee who is willing to cooperate with co-workers and supervisors without insisting on doing things a particular way contributes to a positive, productive work environment for everyone.

Loyalty is a very important attitude to develop. A loyal employee should be concerned with the services provided in the place of employment. Customers should receive the best service and products possible. Everyone must work together to keep things going



smoothly. Willingness to follow the rules and policies of the business is part of being loyal to an employer.

It is important for an employee to get acquainted with his or her employer or supervisor and to learn what is expected. The ability to follow directions and accept suggestions and criticism improves job performance. A supervisor's comments are meant to help an employee do a better job, not to hurt feelings. An employer usually has good reasons for expecting tasks to be performed in certain ways. Employees should try to maintain an open mind.

A ***co-worker*** is someone with whom a person works. The ability to get along with others influences success in any job. Employees should have a friendly, sincere manner and a willingness to do their share of the work. Their respect for the knowledge and skill of more experienced employees helps to provide good relationships with co-workers. A person must understand himself or herself before he or she is able to understand others. Employees should be interested in people and should look for something to like in each of them.

One of the most important characteristics to have when working as a member of an interior design or furnishings organization is the ability to look for jobs to do when assigned tasks are completed. In this way, employees help other employees have new job experiences and possibly learn new skills. This also assures co-workers that an employee that takes initiative is cooperative.

Flexibility is an important trait in any job, but especially in the housing, furnishings, and equipment industries. Emergencies and delays can occur which interrupt the usual work schedule. An interior design assistant or sales assistant may be asked to do some extra task or to help another employee with his or her job. This ability to change activities or thought quickly is part of being flexible. The person who always tries is going to be more successful in reaching a goal. Courage, initiative, and a spirit of adventure are necessary in the housing, furnishings, and equipment business for attempting both the ordinary and the unusual problems that may arise.

Accuracy and Initiative. ***Accuracy*** means getting the job done without mistakes. It requires paying careful attention to instructions and then following procedures correctly. The accurate employee is attentive to details rather than being careless in work habits. When unsure about what to do, it is smart to ask questions rather than perform a task incorrectly. However, it is important to listen closely so that instructions do not have to be repeated often.

Initiative involves taking the lead to get work done. After completing an assigned task, the productive employee takes the initiative to look for the next task that needs to be done. An employee who always waits around to be told to start the next assignment wastes a lot of time, gives an appearance of laziness, and ends up accomplishing less than someone who shows initiative.

Dependability, Honesty, and Promptness. A supervisor should be able to depend on an employee's performance, honesty, and promptness even when the employee does not feel well. Dependability means consistently following through with tasks and responsibilities. The dependable employee can be counted on to maintain high standards and produce quality work even when working under pressure or when the work seems boring.

Honesty involves maintaining high ethical standards, telling the truth, and handling the employer's possessions and money with care. Dishonesty is a common reason for terminating employment.

Promptness means being on time and completing assigned tasks in a timely manner. The prompt employee arrives at work on time and gets right to work. Whenever an employee is unable to report to work, it is important to call as early as possible.

Absenteeism. Retail stores divide their workloads so that every employee must report to work in order for the operation to run smoothly. Many people depend on an employee's services. These services are needed every day that the employee is scheduled to work. When an employee is absent, someone else must do the person's work.

The supervisor should know the location of all employees during working hours in case of an emergency. An employee should never leave the premises without the supervisor's permission. In the event of an emergency, such as an illness or a death in the family, the employee should notify the supervisor at once that he or she needs to be excused. An excessive number of unexcused absences are cause for dismissal.

Self-control. There are times in any job situation when problems occur and it may be difficult to remain calm. However, a successful employee keeps his or her temper under control and avoids unpleasant confrontations with customers, other employees, and supervisors. The following suggestions help a person maintain calm and controlled:

- Consciously work to maintain a pleasant disposition.
- Pause to think before speaking or taking rash actions.
- Learn to remain calm in difficult situations.
- Work hard to perform well and obtain the respect of supervisors and co-workers.
- Learn to accept constructive criticism and remain friendly.

Positive Attitude. Attitude can be defined as the way a person thinks and feels, which influences the way that person acts. A positive work attitude involves thinking about work in a favorable manner. A person who demonstrates a positive attitude can more easily secure and keep a job.

A positive attitude toward the employer, other employees, and the job benefits everyone involved. It helps a person deliver high quality performance and makes the job more enjoyable. Also, demonstrating a positive attitude is contagious. It makes others feel better about themselves and the workplace, and it promotes a positive impression of the employee who displays the positive attitude.

Ways that a positive attitude may be demonstrated include the following:

- Show enthusiasm for the tasks you perform.
- Demonstrate a willingness to learn and improve.
- Demonstrate loyalty to your employer.

- Speak positively about people with whom you work. Avoid gossiping or making negative comments about other employees or supervisors.

Physical and Mental Health. An employee's physical and mental health directly impacts job success. Being productive at work requires energy and concentration, which are products of good health. Good health also contributes to a positive attitude.

Although a person cannot control all factors that impact health, there are many things a person can do to be healthy. A good diet, regular exercise, and the proper amount of rest all contribute to good health. It is also important to learn how to balance one's activities and manage stress.

The characteristics discussed in this section are those individuals need for job success. A summary of these characteristics is shown in Figure 3.2.

◆ ***Essential Questions:*** ◆
Employability Skills

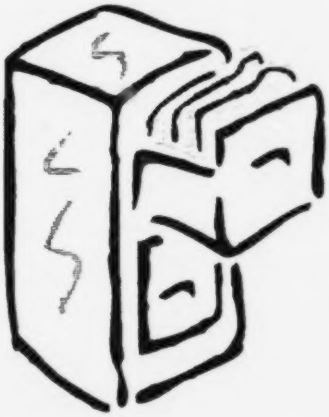
1. What factors influence the flow of communication?
2. Why do employers need employees with good communication skills?
3. What is nonverbal communication?
4. What is the difference between listening and hearing?
5. Why is grooming and appearance important for employees in environmental design careers?
6. Why is teamwork important in the workplace?
7. What is honesty?
8. How do employees demonstrate a positive attitude?

ROUTINE TASKS COMMON TO ENVIRONMENTAL DESIGN OPERATIONS

Merchandising, the planning and promotion of sales, includes a wide variety of tasks. Many of these tasks are simple clerical or office responsibilities such as filing, maintaining inventory, and providing customer services. These tasks are just as important as the glamorous task of displaying a room full of furniture. All merchandising tasks are extremely important in maintaining positive customer relations. Such jobs need to be performed as accurately and with as much care as that given to the selection of furnishings for a furniture display room.

Filing

General Filing Tasks. A variety of filing tasks is necessary in any interior design or furnishings business. Interior design assistants or sales assistants may be required to file paid invoices (itemized lists of goods shipped stating quantities, prices, fees, and other charges), letters, mail received by the business, and other items. Labels for file folders also must be prepared. Filing also involves keeping files well organized and neat. Some businesses remove outdated materials from files regularly.



Characteristics That Contribute to Success

Appearance

- Start each day with a smile.
- Check appearance before going to work.
- Check clothing for rips, missing buttons, and sagging hems.
- Check the hem in pants or skirt. It should be an appropriate length.
- Make sure clothes fit properly without being too tight.
- Make sure hair is clean and neatly arranged.
- Make sure hair is cut appropriately.
- Females should apply their makeup correctly and in moderation on a clean face.
- Males should be cleanshaven or have neatly trimmed beards or mustaches.
- Have clean teeth and fresh breath.
- Have clean hands and neatly manicured nails.
- Remove nail polish when it begins to chip.
- Take a daily bath and use a reliable deodorant.
- Make sure shoes are sensible, clean, and in good repair.
- Maintain proper posture when standing, walking, or sitting.
- Avoid wearing too much cologne or perfume.

Voice

- Speak in a pleasant manner without being loud.
- Have a reasonable command of the English language.

Cooperation

- Be willing to cooperate with co-workers and supervisors without insisting on doing things a particular way.
- Be willing to try to work with someone even though it is difficult.
- Know and obey the rules and policies of the place of employment.
- Be willing to do any job assigned.
- Be willing to do jobs or routine tasks that were not originally assigned.

Work Habits

- Handle and use equipment carefully.
- Work efficiently. Do not waste time.
- Accept and practice new or more efficient techniques.
- Show an interest and enthusiasm in what has been assigned without getting bored and distracted easily.
- Make sure work meets the standards of the business.

Accuracy

- Follow directions without having them repeated.
- Complete jobs on time.
- Be able to work well without constant supervision.
- Ask for assistance or clarification when needed.

⇨ *Figure 3.2*

Characteristics That Contribute to Success

Courtesy
- Be courteous and polite to fellow employees and supervisors.
- Be courteous and polite to customers
- Respect the desires, interests, and opinions of fellow workers.

Dependability
- Be dependable even when you may not feel well.
- Be loyal to your employer without complaining to co-workers.
- Make sure an employer can depend on your honesty.
- Be able to work under pressure without becoming nervous, irritable, inefficient, or upset.
- Maintain high standards while doing boring work.

Health
- Maintain good physical health.
- Eat properly and get plenty of rest to avoid dragging on the job.
- Practice good posture.
- Maintain normal weight.

Initiative
- Be able to see what needs to be done without being told.
- Show leadership when in charge, without being bossy.

Promptness
- Be on the job regularly.
- Be on time and ready to begin work right away.
- Call as early as possible when unable to go to work.

Self-control
- Keep temper under control. Do not talk back to the boss.
- Keep your disposition pleasant at all times.
- Try to obtain the friendship and respect of the supervisor and co-workers.
- Accept criticism and remain friendly.

Attitude
- Think about your work in a favorable manner. It is very important in order to get and keep a job.
- Show enthusiasm and a willingness to learn.
- Maintain respectful attitudes toward employer, co-workers, and job.
- Realize the need for a good attitude to achieve job success.
- Give the job your undivided attention and best effort.
- Bring to work a genuine interest, positive attitude, and good physical health.
- Strive to achieve high quality performance.
- Realize you must work hard in order to be successful.

⇨Figure 3.2, cont'd.

Filing Systems. Some firms use a completely alphabetized system so that every supplier is listed alphabetically according to the first word of the business' name. Using this system, Fine Day Furniture would be filed under "F". Other firms may subdivide catalogs so that all the furniture catalogs are together with folder tabs of one color, and all the lighting catalogs are together with folder tabs of another color. Folders may be filed alphabetically under each subdivision. Still other firms maintain one file for all the catalogs with retail prices in them and another file including all the wholesale prices. Using this system, the client sees only retail prices when reviewing materials.

Wallpaper books show samples of wallpaper. A furniture store or studio that offers complete interior design services probably keeps a good variety of wallpaper books. These should be organized according to manufacturers or to the general design of the wallpaper in the books (such as traditional or contemporary). These books are very large, hard to handle, and difficult to store and keep in order. It is best to have a special cabinet with adjustable vertical divisions that can be arranged to hold individual catalogs.

Organization of Catalogs, Books, and Samples. In any interior design or furnishings business, there are many catalogs, swatch books, sample books, and actual samples of fabric furniture, floor coverings, wall coverings, accessories, lighting, and other items. ***Swatch books*** are books that include fabric samples. ***Sample books*** are books that show samples of fabric, wallpaper, floor covering, or furnishings items. These items must be well organized. When organized well, information requested by customers can be located easily. Having such materials out of order or missing causes customers to be delayed, which might result in lost sales. Thus, the job of organizing and filing catalogs and samples is an essential one in the overall operation of the business. An assistant should listen carefully when the filing system is explained so items are filed correctly and quickly.

Swatch books, rug and tile samples, wood finishes, and fabric lengths are difficult to keep organized. Customers are usually in a hurry when shopping, but they wish to see the large assortment of available samples. The samples may leave a cluttered appearance. The interior design assistant or sales assistant can help keep these items filed properly by returning sample books and fabric samples to the appropriate locations.

Fabric Samples. Fabric samples are available in books, but they also are available in one to two-yard folded lengths that can either be hung on special hangers or folded and stacked flat. Fabric lengths may be organized according to texture. For instance, fabric for casement sheers, printed draperies, and upholstered items may each be stored on separate shelves. Fabric books may contain several weights of fabrics as well as different colors and patterns, making it difficult to organize the sample books according to textures, colors, or patterns. Fabric books from one manufacturer may be placed on one shelf or hung together from hooks on a pegboard.

Discarding Outdated Materials. An additional filing task is discarding old materials when new materials arrive. This task is very important. It is very frustrating and embarrassing for a designer to make a sale from an outdated catalog and learn that the particular item has been discontinued or there has been a price increase that was not noted. If asked to delete discontinued items from the catalogs, books, and samples, the assistant should be sure to notice how they are listed. If listed according to number, the numbers should be checked carefully. It is easy to make a mistake when the numbers contain several digits.

Inventory

Every business needs to keep an accurate ***inventory*** or record of stock. Some merchants take a yearly or semi-yearly inventory to prepare financial statements for credit purposes, to identify items left in stock, and to identify items that should be ordered. Some merchants keep a running inventory. With a ***running inventory***, an item is removed from the inventory after being sold and listed on a sales slip. A relatively small firm can keep an inventory of this kind. Use of a running inventory requires that a person check each day's sales slips. Usually an interior design assistant or sales assistant would not be expected to assist with keeping a running inventory up-to-date, but he or she could be asked to help count items for a yearly or semiyearly inventory. In this case it is most important that all items are counted accurately to get a complete check. Inventory is one way of getting the stock organized at the end of the year.

◆ Essential Questions: ◆
Routine Tasks Common to Environmental Design Operations

1. Why is maintaining an organized system of swatch books and sample books important in interior design and furnishings careers?
2. Why is it important to discard outdated sample and swatch books?
3. Why is taking inventory important?

Chapter Highlights

- The flow of communication is influenced by various factors including personalities, perceptions, ideas, sensitivities, and communication skills of the sender and receiver.
- Being successful in a job requires good verbal, nonverbal, and written communication skills. With increased use of computer technology, electronic communication skills are increasingly important to job success.
- Both verbal and nonverbal forms of communication are important when dealing with customers in person. Examples of nonverbal communication or body language includes facial expressions, handshakes, posture, movement, hand and arm gestures, sighs, grunts, groans, and other overall body language.
- Listening is a communication skill that is often overlooked. It is one of the most difficult skills to learn, but it is one of the most important.
- Interior design assistants or sales assistants should be ready to work upon arrival. Employees should try to leave troubles at home and not allow personal problems to be displayed to clients or other employees.
- An employee should remember that the customer is the most important person in the store. Lost customers result in lost income and a negative reputation for the business.
- Good grooming and personal appearance are important factors in achieving job success. The way a person looks affects the way others react toward that individual. The way a person looks also affects the way that individual feels about himself or herself.
- Employees are responsible for knowing the dress code of the business for which they are employed.
- Observing rules of good manners helps a person project a positive image to others, and it makes others feel more comfortable around that person.
- Recognize the diversity of people in the workplace. People in the workplace typically differ in gender, age, culture, and many other ways. Be respectful of differences. Recognize that people think and react differently depending on the experiences they have had.
- Employers have said that one of the most important traits they want an employee to have is the ability to work with others. A productive team employee is one who cooperates willingly with others - who is an effective team member.
- Honesty involves maintaining high ethical standards, telling the truth, and handling the employer's possessions and money with care. Dishonesty is a common reason for terminating employment.

Chapter 4

The Elements of Design

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

1A Identify the elements of design.
1B Exhibit how the elements of design can create various effects.

Chapter Vocabulary

abstract
accentuated neutral
analogous
angular lines
applied ornament
color
complementary
cool colors
curved lines
double complementary
elements of design
faux finishes
geometric
hue
intensity
intermediate colors
line
monochromatic
naturalistic
ornament
pattern
primary colors
secondary colors
shade
shape and form
space
split complementary
straight lines
structural ornament
stylized
tactile texture
tetrad
texture
tint
tones
triad
value
visual texture
warm colors

Design appears in all surroundings. It appears in homes and building, clothing, furnishings, and countless other articles. In art, design refers to the organization or arrangement of parts or details to create a complete and artistic unit. Good design is pleasing and adds to our happiness and enjoyment. Poor design causes an unpleasant reaction. It can seem confusing, out-of-place, or ugly.

Individuals react to design each day. Design influences which clothes a person buys or which fabrics a person selects. It also influences where a person shops. Some stores have a pleasant atmosphere that encourages people to shop and browse. Some restaurants create a cheerful, cozy, or romantic mood that attracts customers. These reactions do not result from chance; they are planned through the use of design.

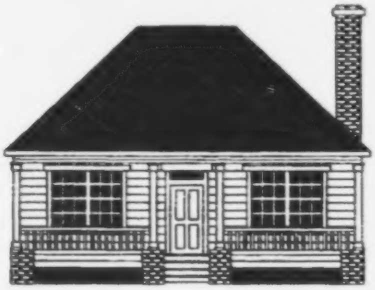
A person can develop the ability to recognize and apply good design. People are not born with good taste. It is developed by first learning the parts that make up good design. These parts, or "tools," are called the elements of design. The ***elements of design*** are space, shape and form, line, texture, and color. Every item a person examines and every grouping a person makes involves organizing these elements. In some instances, the element of line might be the most dominantly used element. In others, the element of color may demand the most attention.

SPACE

To the interior designer or interior design assistant, the element of ***space*** is the most important of all elements. For without a space to furnish, decorate, or design, their services are of no value. Therefore, space must be a given. However, the type of space with which the interior designer is working could be quite unique. The size of the space can be quite different from one project to another. It could be a large contract office complex, or a newly constructed home, or just one space within a home with which to work.

The size of the space can suggest different kinds of emotions. For example, an extremely large museum with thirty-foot ceilings can make individuals feel very small and insignificant. A large home with ten-foot ceilings and large open rooms can make a person feel free and suggest luxury, while a small, cozy space can make a person feel safe and secure. However, if the space is too small, a person might feel claustrophobic.

Some spaces are designed for the purpose of staying only a short amount of time. Fast-food restaurants purposely have seats that are not very comfortable so customers will eat quickly and leave. Other types of hospitality spaces, such as elaborate, expensive restaurants, want to encourage their clientele to stay and spend money. Therefore, the seating chosen for these spaces is usually quite comfortable.



People also relate differently to the various styles of spaces. Some people feel at home or comfortable in a dark, rustic space with coarsely textured upholstery fabrics. Other people might be uncomfortable in this type of space. Some people prefer a very sparsely decorated modern space with finishes of mirror, chrome, and other slick, shiny surfaces.

It is important to remember that everyone reacts physically and psychologically to every space they encounter. It is important when working with individuals to find out about their specific likes and dislikes, especially in regard to styles and colors.

◆ **Essential Questions:** ◆

Space

1. How does space affect the way individuals react to their environment?
2. What is the result of poor use of space?

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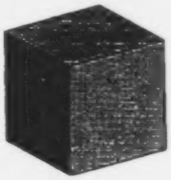
SHAPE AND FORM

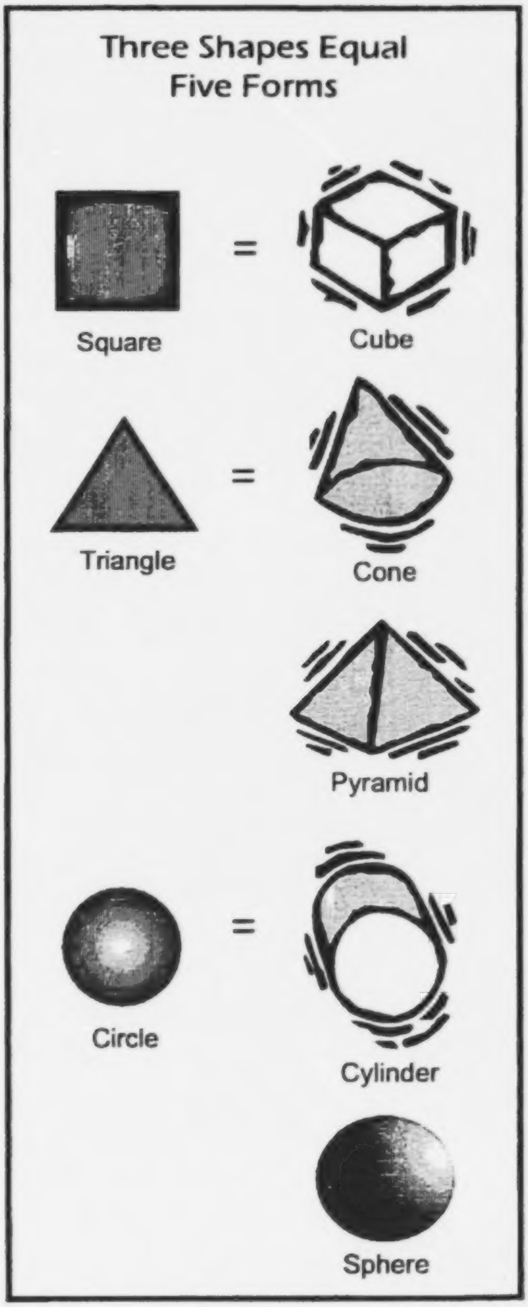
Shape and form are often used interchangeably, but the two words do have different meanings. ***Shape*** suggests two dimensions--length and width. Such shapes are squares, triangles, and circles. The area of a room also suggests two dimensions since area = length X width. When discussing the term, "form," one cannot separate form from shape. Every form has shape, but not every shape has form. ***Form*** indicates three dimensions--length, width, and height. So, form is not flat like shape; it has volume and mass. It literally takes up space.



The amount of space that a form uses depends on the size of the form and the size of the room. Therefore, it must be understood that a form affects space since it alters the amount of available space. Space suggests a wide-open area with no boundaries and implies the possibility of change. Form seems more important since it adds boundaries because of its mass.

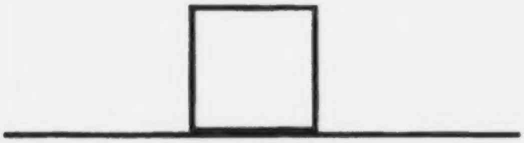
In Figure 4.1, the three basic shapes are given the dimension of height thus creating five forms. These forms are cubes, cones, pyramids, cylinders, and spheres.

The proportion of these forms or shapes is an important factor in design. Squares and rectangles produce a feeling of mathematical precision while circles and ovals convey a feeling of completeness. If there is no pattern to an arrangement of forms, the effect may be jumpy. Objects that are related to each other complement each other. A certain amount of diversity of forms is desirable as long as the different forms are harmonious.



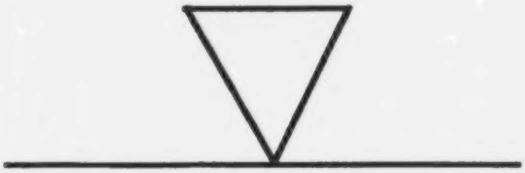
⇨ ***Figure 4.1***

Many shapes or forms give a feeling of stability. As shown in Figure 4.2, a square that rests firmly on a line gives a feeling of stability.



⇨ ***Figure 4.2***

Large, overstuffed sofas and chairs tend to convey the same visual effect. Their squared look lends an appearance of stability to a room or grouping. On the other hand, some forms or shapes may produce a feeling that lacks stability. The triangle in Figure 4.3 looks as if it is about to fall over; it lacks stability. The proportion is not correct because the bottom of the triangle is too small to support the top. The result is a top-heavy look. A chair may look top heavy if the body is overstuffed and the legs are small and not far enough apart. Like the illustration, the base may be too small.



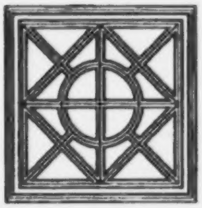
⇨ ***Figure 4.3***

A form also can give an impression of lightness or heaviness. This impression depends on the material, especially the texture of the material from which the object is made.

◆ ***Essential Questions:*** ◆
Shape and Form

1. What is the difference between shape and form?
2. How does form affect space?

LINE



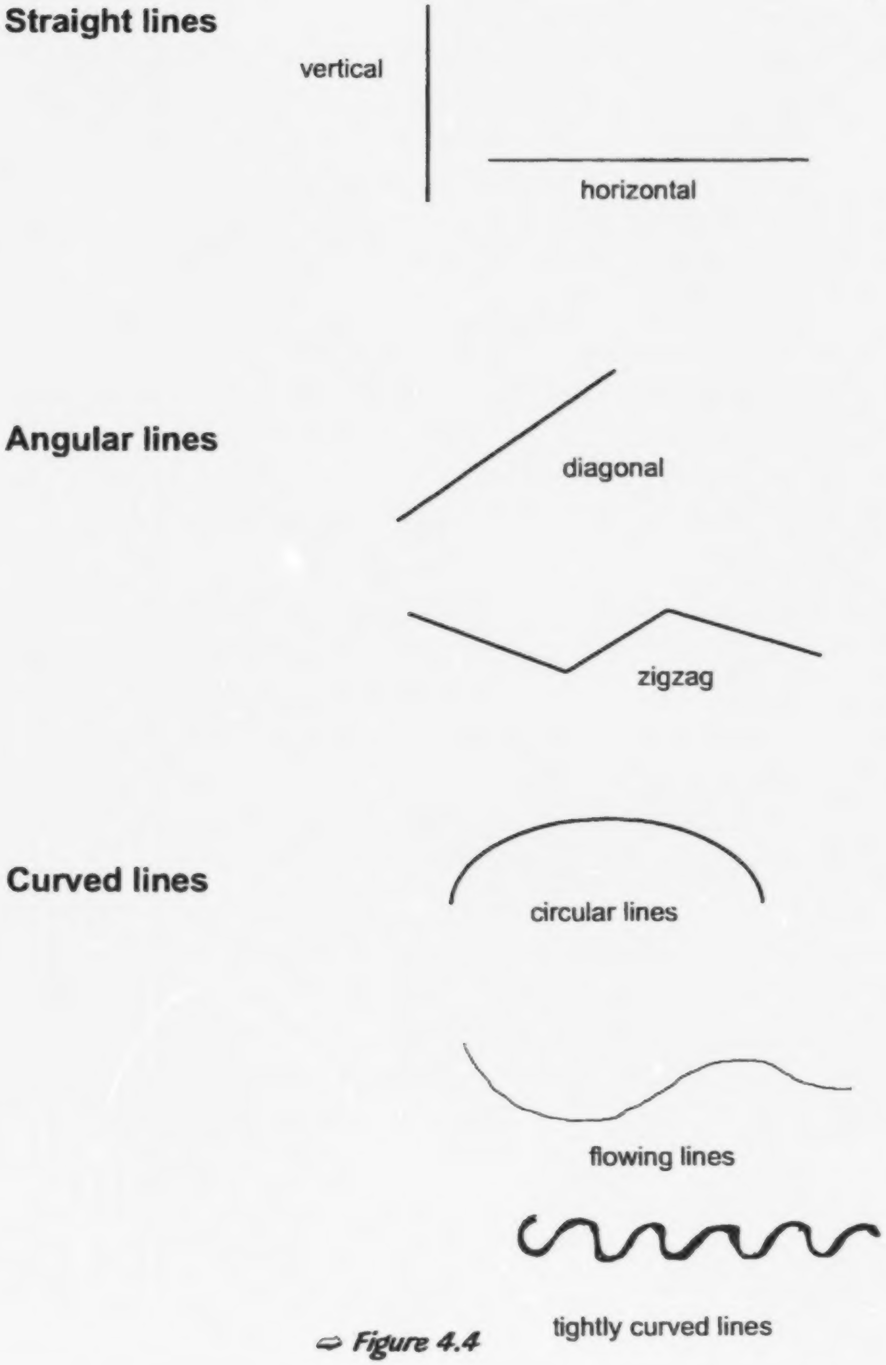
Line is the element of design that indicates direction. A line is versatile and can define or limit shape and suggest movement, speed, or direction. Lines are simple, yet powerful. In buildings, interior spaces, and artwork lines can create eye movement and influence emotions. Lines can lift feelings and overwhelm. Each type of line creates a different mood or effect. There are three categories of lines:

- straight lines (vertical and horizontal)
- angular lines (diagonal and zigzag)
- curved lines (circular lines, flowing lines, or tightly curved lines)

These types of lines are illustrated in Figure 4.4. Different combinations of these lines provide a variety of design possibilities.

Straight lines (vertical and horizontal) give a feeling of security. Vertical lines are the strongest. They give an impression of dignity, formality, and strength. Vertical lines create a structural impression suggesting vertical supports used in buildings. They add height to a room whether found in walls, doorways, windows, wallpapers, or furnishings. The longer the vertical line, the more in awe the viewer becomes.

Categories of Lines


Straight lines
vertical
horizontal
Angular lines
diagonal
zigzag
Curved lines
circular lines
flowing lines
tightly curved lines

⇨ *Figure 4.4*

Horizontal lines are not as strong as vertical lines, but they create a sense of rest. These lines are comforting as in the horizon. They suggest serenity, repose, and relaxation. A way to remember what horizontal lines suggest is to think of how individuals sleep. Everyone sleeps in a horizontal position. Therefore, horizontal lines give a feeling of restfulness. Horizontal lines may be used to relieve or decrease the effects of strong vertical lines. Sofas, windows, fireplaces, tables, desks, or chairs can provide a space with horizontal lines. Too many horizontals can make a room look too calm or dull. Remember, since lines are like pointers, horizontal lines point to the width of an object or space.

Angular lines (diagonals and zigzags) break the monotony of vertical and horizontal lines by expressing excitement and movement. Angular lines are more difficult to use successfully. Diagonal lines are least active of the angular lines. They point into space and unless they are decisively stopped, can keep the eye moving right out of the room. Diagonals can suggest security as in the angles of a roof. Too many diagonals can be too busy or become tiresome. Diagonal lines that are too dominant in a room can disrupt the structural form and hinder the harmony of a room.

Zigzag lines are short, back and forth diagonals that form an equal or unequal pattern. A set of zigzag lines creates a herringbone pattern that contains equal diagonal lines. They are extremely lively and rhythmic. Zigzag lines can add energy to a room, but too many can be agitating to the viewer.

Curved lines suggest grace, subtle motion, and are viewed as feminine. Circular lines are used in architectural details such as arched doorways. They add softness to straight, angular lines and add softness to a room with too many harsh straight lines. Using circular lines excessively can make a room too decorative and visually disturbing.

Flowing lines are irregular curves that suggest gentle movement. Flowing lines can be viewed in a curved or spiral staircase. Plant forms can offer inspiration for the flowing lines as well as the motion of water. These lines offer a great deal of visual interest since the viewer never knows where the lines are leading.

Tightly curved lines are the most playful of all curves. They have more zest and offer visual excitement. Tightly curved or busy lines are most often seen in fabrics, floor coverings, and artwork. These busy, active lines can make an atmosphere that is fun and can create a pattern that visually closes up a space. These lines can keep a space from being boring; however, too many of these tightly curved lines can be overpowering in some spaces.

The effects of various lines are often used for designing clothing. Vertical stripes can make people appear more slender since they point to a person's height while horizontal stripes may make an individual look heavier because these lines point to the person's width. Striped wallpaper used in a room and striped fabrics used on furnishings, flooring, and window treatments have the same visual effects on a room.

◆ *Essential Questions:* ◆
Line

1. How do lines affect feelings?
2. How are lines used in interior design to create visual effects?

TEXTURE

Texture is the surface quality of an object. Touching an article is often as important as seeing it. A person can imagine how an article feels by looking at it. Because appearances can be deceiving, both touch and sight are used to identify the true texture. Textures are more accurately determined through touching than through sight.

Texture can be divided into two categories. ***Tactile texture*** or actual texture is when the three-dimensional surface quality of an object can be felt as in rough wood, brick, or course fabrics. ***Visual texture***, also known as simulated texture, is when a surface does not feel like it looks. Today, the use of ***faux finishes***, or fake finishes, are used to imitate many types of materials. Leather-look walls, faux marble baseboards, and slate-like tiles are becoming more popular. The main reason for the popularity of faux finishes is because a more expensive look can be achieved more economically.

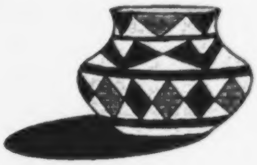
Not all textures are rough. Textures also can be smooth, soft, or shiny. Rough and dull textures, such as concrete, stone, and brick, are usually used to create an informal or rugged atmosphere. Pottery with a Spanish design in brown and orange could be displayed on a rough linen tablecloth to create an informal table setting. Smooth or fine textures, such as glass, aluminum, and plastics, suggest formality or elegance.

Rough surfaces usually reduce the apparent height of a ceiling or length of a wall. A rough surface also makes colors appear darker. Smooth surfaces increase the apparent height of a ceiling, increase the appearance of wall length, and make colors appear brighter because they reflect more light.

Texture greatly affects the appearance of color. Fabrics of different textures, such as tweed and satin, dyed an identical color may not appear to be the same color. A rough fabric such as tweed absorbs light. The fabric's unevenness creates shadows that make it appear darker than a smooth and reflective satin fabric. This is important to remember when attempting to match colors with different textures. It is important to look at any material in the light where it will be used. Using one color and contrasting textures can create a dramatic interior or display. Figure 4.5 shows examples of some effects created by various types of textures.

Few set rules and regulations exist for combining textures. Generally, textures combined in a design should be related or should contrast pleasantly. They should express harmony by being suited to each other and to their uses. Practice in combining and observing textures that go well together helps the understanding and use of the element.

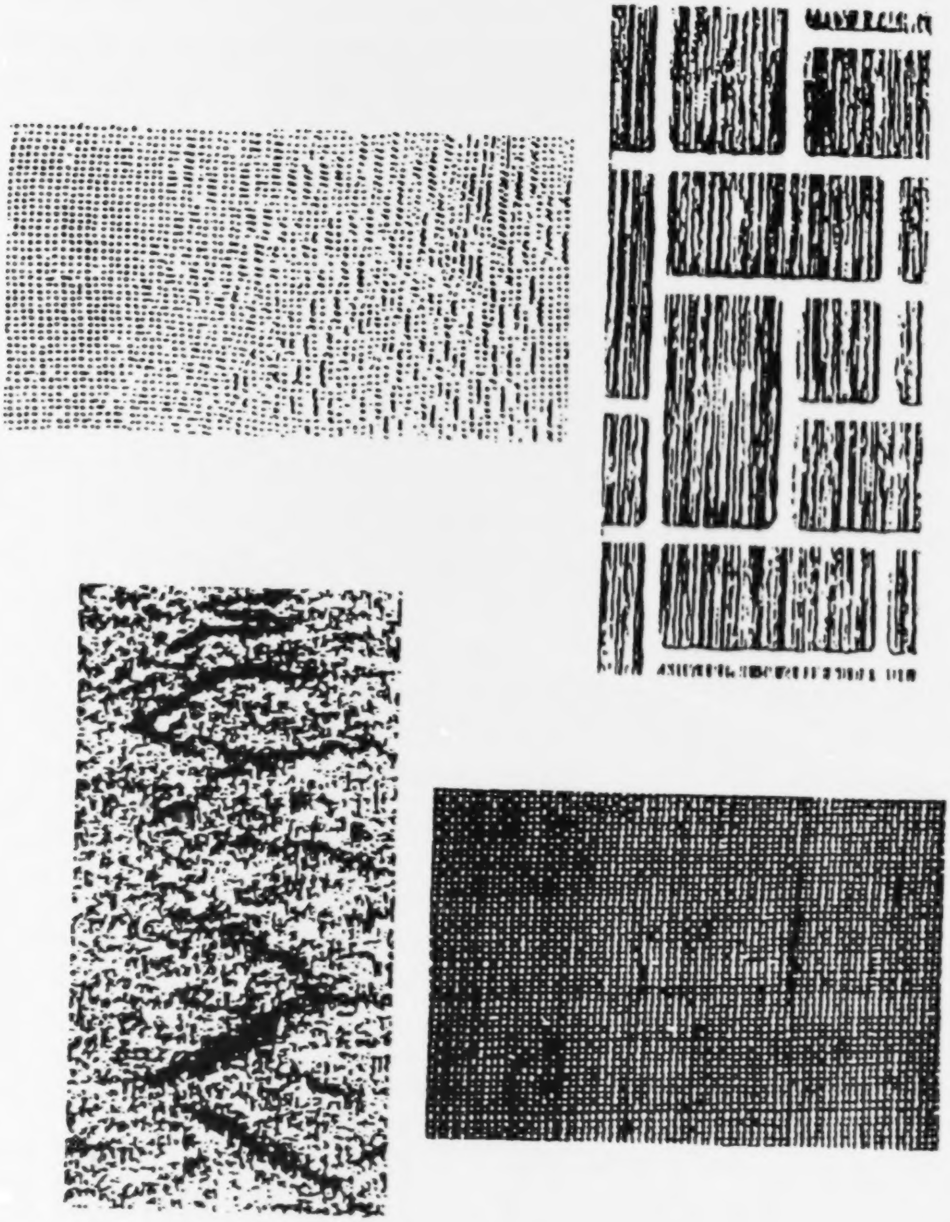
Ornament and Pattern



Ornament is a broader term than texture; it is the decorative enrichment of an object. Adorning an object with some type of jewelry can enhance its appearance. Or, designs and patterns may be drawn on a piece of pottery to create visual interest. It could be that the materials that are used in the object's construction are formed in such a way as to add a textural effect. Texture can be a type of ornament, and pattern and ornament usually create some type of texture. All surfaces have some type of texture that affects us physically and creates an effect on us either pleasantly or unpleasantly.

There are two types of ornament: structural and applied. A design in which the ornament is essential to the character of the object is called ***structural ornament***. Woods used for furniture construction have a distinctive appearance. If a very nicely grained cherry wood is used for a wooden chest, it can be said that the wood is essential to the character of the piece. The piece of furniture encompasses the natural beauty of the wood which adds a decorative quality to the chest.

Texture



⇨ Figure 4.5

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Applied ornament is that which is added to an object after it is structurally completed. This ornament could be added by painting a design on the object or by adding fabric. ***Pattern***, as a type of applied decoration, is the product of repeating a design unit, or motif as a thematic element. These patterns or motifs are separated into four categories and are illustrated in Figure 4.6. ***Naturalistic*** means realistic or as seen in nature. A rose on a fabric looks like it would if picked right from the garden. ***Stylized*** or conventional designs suggest a basic form but are much more simplistic in shape or form. For example, a rug may appear to have leaves and flowers on it. However, no one could tell what type of flower it might be imitating. ***Abstract*** patterns are generally familiar types of motifs or shapes but done in unrecognizable ways. ***Geometric*** designs are created using lines, curves, circles, squares, or any other geometrical shape.

◆ *Essential Questions:* ◆
Texture

1. What are faux finishes? Why are they so popular?
2. How is ornament used to create texture?

COLOR

A person with normal vision can distinguish thousands of colors or hues. ***Color*** is one of the most important elements in design because of the effects it has on people and objects. People react emotionally and physically to the colors around them. Colors can be irritating, disturbing, restful, soothing, stimulating, or exciting. Colors are used to establish mood and personality in a room, an arrangement, or a display.

For a long time, color was considered to be part of every object. In 1666, Isaac Newton conducted an experiment with white sunlight and a prism. He observed that the white light broke up into a rainbow of colors as it passed through the prism. When the colored light passed through another prism, the colors returned to the white light. He discovered one of the color fundamentals–color is in light and not in the object light is shining upon.

Light is extremely important because in enables us to see the other elements, especially color. The science of light is very complex. Light is either natural or artificial. Natural lighting comes from the sun. But, since the sun is not around at night or in interior spaces without windows, artificial lighting is a necessary part of every environment.

Light travels in wavelengths that range in size from short to long. The light that is actually seen is called the visible spectrum. This spectrum has all the colors of the rainbow—red, orange, yellow, green, blue, and violet. Red has the longest wavelength and violet has the shortest wavelength. When all of the colors of the visible spectrum are combined in equal portions, the result is "white" light that is actually colorless.

Three factors affect the color of an object that we see:
- the type of light that makes the object noticeable
- the way that the object reflects and absorbs the light
- the sharpness of the viewer's own eyesight.

Light striking an opaque object causes some of the wavelengths to be absorbed and some to be reflected. The reflected rays give the object its color. White objects reflect all of the wavelengths of color, while black absorbs all the colors of the spectrum.

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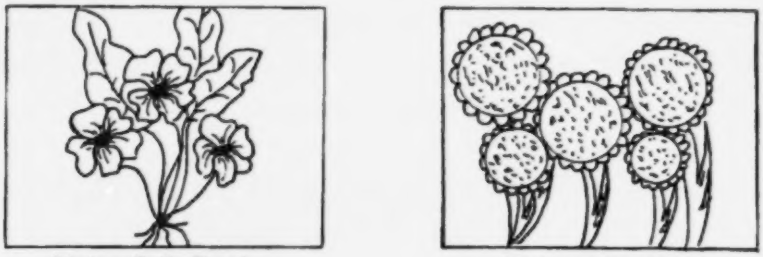
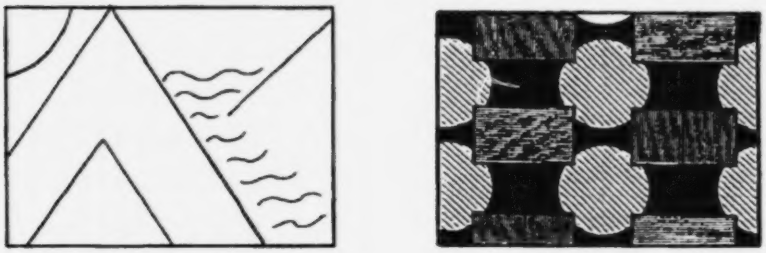
Patterns and Motifs



Naturalistic Design

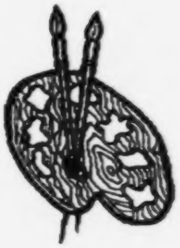
Stylized Design



Abstract

Geometric

⇨ ***Figure 4.6***



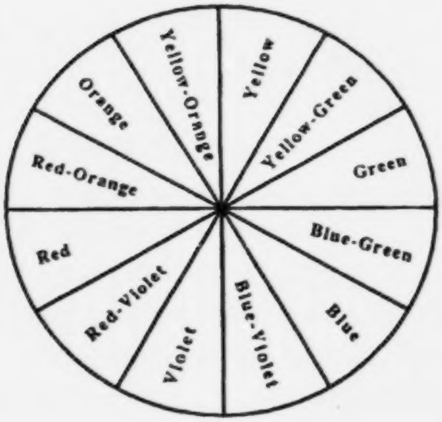
Thus, color is a function of light. When all light is absorbed by a surface, the result is black. A black surface represents the absence of all color. In other words, no light and no color are reflected from a black surface. When all light is reflected from a surface, the result is white. A white surface represents the presence of all colors. In other words, all of the light and all colors are reflected from a white surface. Without light, there can be no color. Gray is simply a mixture of black and white.

Color has had a symbolic role in religion and magic for centuries, but in early years it was rarely used for personal expression. The Renaissance period (fourteenth, fifteenth, and sixteenth centuries) inspired a change in people in a struggle for freedom of the human mind and spirit. Oil paintings were introduced and color began to be used in more varied ways.

The pleasure derived from color is spontaneous. Use of color can emphasize an object or draw attention away from it. Contrasting colors can emphasize an item while related colors can hide it. No one color is ever completely isolated from all others. A color wheel can be helpful to an interior design assistant for selecting and coordinating colors. The color wheel in Figure 4.7 illustrates how colors are related to each other. The color wheel is the most common device used to show the relationship between colors. Primary, secondary, and intermediate colors are the common names given to describe the twelve colors on the color wheel.

Most of the colors in paint can be derived from the three primary colors. The ***primary colors*** are red, yellow, and blue. Mixing other colors together cannot make these three col-

The Color Wheel



⇨ *Figure 4.7*

ors. Secondary colors are made from equal parts of any two primary colors. These ***secondary colors*** are violet, green, and orange.

The tertiary colors, or ***intermediate colors,*** are those between the secondary and primary colors. Intermediate colors play an essential role in color harmonies. Designers and artists use more intermediate colors and other color mixtures than the primary and secondary colors. Mixing one primary color with one secondary color on either side makes each intermediate color. The name of the intermediate color includes both the primary and secondary color with the primary name stated first. The intermediate colors are yellow-green, blue-green, blue-violet, red-violet, red-orange, and yellow-orange. Some people consider the intermediate colors more desirable.

Mixing, lightening, and darkening the primary colors make other colors. In addition to the primary, secondary, and intermediate colors, the three neutral colors are black, gray, and white.

Color has three descriptive properties, which are hue, value, and intensity. ***Hue*** refers to the basic color identity or the specific name of a color, such as red, blue, or green. Each color on the color wheel is a hue. New color names are introduced every season in the fashion industry. These names change with fashion seasons but are used to refer to standards on the color wheel which never change.

Value refers to the lightness or darkness of a color in relation to black and white. The value of a color depends on the amount of light the color reflects. The basic hue or middle value of a color is what you see on the color wheel. When you add white to a color, the result is a ***tint***. Pink is a tint of red. A ***shade*** is the result when black is added to a color. Burgundy is a shade of red. When white is mixed with a color, the color becomes more reflective and thus, the color is lightened. Black darkens colors by making them less reflective.

Tones are formed by adding both black and white to a hue. Adding some of the color's direct complement (the opposite color on the color wheel) also can form a tone.

Intensity refers to the degree of brightness or dullness and strength or weakness of a color. Intensity describes the degree of purity or strength of a color. Intense colors are bright, clear, and stimulating. They make objects appear larger and closer. They also call attention to form. Less intense colors are dull and grayed. They create a calmer effect than intense colors. Less intense colors make objects seem small and far away.

When combining colors, a person must consider the hue, value, and intensity of the colors used in a color scheme. Any colors can be combined with pleasing results if they are of the right value and intensity.

M.E. Chevreul wrote *The Principles of Harmony and Color Contrast* in 1839 officially organizing the art of color harmony. Colors can be classified as similar or related color harmonies or schemes and contrasting color harmonies. Similar color harmonies include monochromatic and analogous. Contrasting color harmonies include accented neutral, complementary, split complementary, and triad.

Color schemes are colors used together to create a certain effect. Figure 4.8 illustrates various color schemes. ***Triad*** color schemes are hues that are four steps apart and equidistant from each other on the color wheel. Red, yellow, and blue form a triad color scheme.

A ***monochromatic*** color scheme contains two or more variations of the same hue. It includes various tints, shades, and intensities of a color. Unity is a characteristic of a monochromatic scheme.

Complementary color schemes use colors that are direct opposites on the color wheel. Red and green are examples of complementary colors. When used together, each complementary color makes the other look more intense. Generally, one color is dominant and various values and intensities are used to lessen the contrast.

Split complementary schemes include a color used with the two colors on either side of its complement. Orange, blue-violet, and blue-green form a split complementary scheme.

An ***analogous*** color scheme uses colors that are adjacent on the color wheel with one common hue. There should not be fewer than three or more than six colors in this scheme. Analogous schemes usually look best when one color is dominant and the other colors are used in smaller amounts to add interest. Blue-green, blue, and blue-violet form an analogous color scheme.

Types of Color Schemes

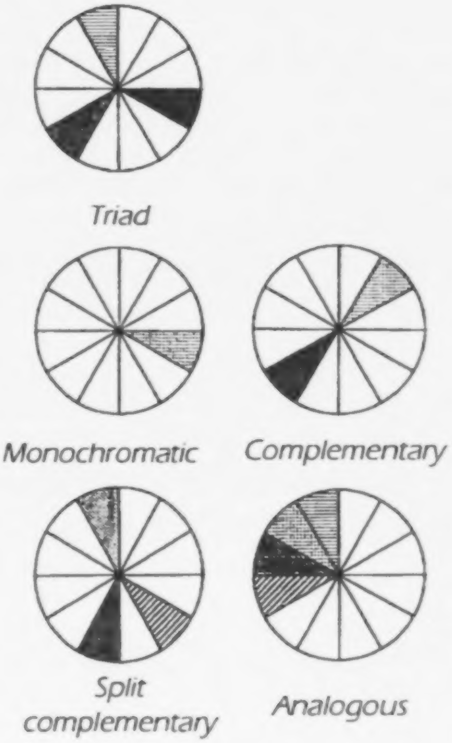


Figure 4.8

A ***double complementary*** color scheme uses two complementary schemes together. Any combination of pairs may be used as long as each is composed of complementary colors. An example would be using yellow, violet, green, and red together.

Tetrad color schemes are hues that are three steps apart and equidistant from each other on the color wheel. Orange, yellow-green, blue, and red-violet make up a tetrad color scheme.

Accented neutral color schemes include using black, white, or gray with a small amount of a bright color accent. A white sofa with red pillows would be an accented neutral color scheme.

Colors can be used to establish a mood or personality in a room, an arrangement, or a display. They can be classified as warm or cool. Even though the temperature in a home may be consistent throughout, some rooms may seem cooler or warmer due to the color scheme used in the room. ***Cool colors*** include blue, green, and purple. They are associated with grass, trees, and water. Cool colors give a feeling of restfulness. They are known as receding colors because they make objects appear smaller and more distant than they really are.

Warm colors include red, yellow, and orange. They are associated with warm objects such as fire and the sun. They give a feeling of activity and movement. Warm colors also are known as advancing colors because they can make objects appear closer or larger than they really are. Warm colors are more visually dynamic. Most designers and artists give more importance to the warm colors.

Every color is associated with a different feeling or mood. Figure 4.9 lists various colors and their associations with feelings and moods.

Color can be used to influence the perception of space. It can make walls seem closer together or farther apart. Color can be used to enhance or offset a room or piece of furniture. A small room can look larger if it is painted with a white or off-white color. The same room painted with a dark color would appear smaller. Dark, warm, or bright colors on walls make a small room seem smaller. This creates a sense of confinement. Light colored walls, window treatments, woodwork, and white ceilings give a room a feeling of space.

Color Associations

Red	Danger, power, love, anger, excitement, and warmth. Red can stimulate the nervous system, increase blood pressure, respiration rate, and heart rate.
Orange	Cheerfulness, youth, warmth, friendliness, courage, energy, hope, and hospitality.
Yellow	Sunlight, cheerfulness, warmth, jealousy, friendliness, happiness, wisdom, sympathy, prosperity, and cowardice.
Green	Refreshing, natural, cool, friendly, alive, spring, peacefulness, hope, and envy.
Blue	Cool, dignity, calmness, sky, truthfulness, spaciousness, serenity, tranquility, and formality.
Violet	Royalty, justice, dignity, wisdom, and mystery.
Gray	Fatigue, age, and inferiority.
Black	Mystery, strength, sorrow, evil, death, and wisdom.
White	Youth, freshness, innocence, joy, faith, purity, and peace.

Figure 4.9

Other ways color can be used to influence the perception of space include the following:

- A dark color seems to lower a ceiling, while a light-colored ceiling appears higher.
- A room that is too long and narrow can be made to appear more square

with a dark color or active pattern on the end walls.
- A room that is too square can be made to appear more rectangular with the use of a dark color or active pattern on one or two walls.
- All light colors and patterns usually make a room look larger.
- All dark colors and patterns usually make a room look smaller.

◆ *Essential Questions:* ◆
Color

1. Why is color one of the most important elements of design?
2. What is the color wheel?
3. What is the difference between warm colors and cool colors?
4. How does color affect space?
5. What is the difference between natural and artificial light?
6. What three factors affect the color of an object?

Chapter Highlights

- The elements of design are space, shape and form, line, texture, and color. Every item a person examines and every grouping a person makes involves organizing these elements.
- To the interior designer or interior design assistant, the element of space is the most important of all elements
- Line is the element of design that indicates direction. A line is versatile and can define or limit shape and suggest movement, speed, or direction. Lines are simple, yet powerful.
- A person can imagine how an article feels by looking at it. Because appearances can be deceiving, both touch and sight are used to identify the true texture. Textures are more accurately determined through touching than through sight.
- Texture can be divided into two categories, tactile texture and visual texture.
- There are two types of ornament: structural and applied. A design in which the ornament is essential to the character of the object is called structural ornament. Applied ornament is that which is added to an object after it is structurally completed.
- Light is extremely important because in enables us to see the other elements, especially color. The science of light is very complex. Light is either natural or artificial. Natural lighting comes from the sun.
- Color is one of the most important elements in design because of the effects it has on people and objects. Colors are used to establish mood and personality in a room, an arrangement, or a display.
- Most of the colors in paint can be derived from the three primary colors. The primary colors are red, yellow, and blue. Mixing other colors together cannot make these three colors.
- Secondary colors are made from equal parts of any two primary colors. These secondary colors are violet, green, and orange.
- The tertiary colors or intermediate colors are those between the secondary and primary colors. Intermediate colors play an essential role in color harmonies.
- Color has three descriptive properties, which are hue, value, and intensity. Hue refers to the basic color identity or the specific name of a color such as red, blue, or green. Value refers to the lightness or darkness of a color in relation to black and white. Intensity refers to the degree of brightness or dullness and strength or weakness of a color.

Chapter 5

The Principles of Design

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

1C List the principles of design.
1D Explain how the principles and elements of design differ.

Chapter Vocabulary

- alternation
- asymmetrical balance
- balance
- contrast
- emphasis
- The Golden Mean
- harmony
- human scale
- progression or gradation
- proportion
- radial balance
- radiation
- repetition
- rhythm
- scale
- symmetrical balance
- transition
- unity
- variety
- visual weight

The parts that make up a design are called the elements of design. There are no rigid rules for combining the elements to create a design, but there are basic guidelines to follow. These guidelines are called the principles of design. They include balance, rhythm, emphasis, proportion and scale, and harmony.

BALANCE

Balance is the principle of design that produces a sense of equality between opposite elements. The elements in a balanced design appear to be equally distributed on both sides of a central focal point. A balanced design produces composure because both sides are perceived to demand equal attention. A design that is not balanced appears disturbing and unpleasant.

In most decorating schemes, two colors are most dominant. They should not be used in equal amounts in furnishings in order to maintain balance. A sofa with a floral design may repeat the color of a solid color chair or the sofa may have throw pillows of the same fabric as the chair. This considers both balance and rhythm.

An interior design assistant or sales assistant must consider each element and object in a design when creating balance. Color, shape and form, texture, and line are factors that produce balance. Once achieved, balance helps to create unity in a design. There are three types of balance: symmetrical, asymmetrical, and radial.

It should be understood that all three types of balance can exist in the same space. Balance is not only seen in the arrangement of furniture in an interior but also in the way accessories are used on tables, in bookcases, on walls, etc. An interior design assistant or sales assistant should know how to achieve each type of balance and should be aware of the effects produced.

Symmetrical balance, also known as formal balance, creates a dignified, quiet effect because the design is the same on each side of the design center. Symmetrical balance is used frequently in architectural designs, landscaping designs, and interior designs. It is simple to achieve. Formal balance gives a feeling of order, stability, and permanence.

It is important not to use symmetrical balance entirely throughout a room, as it may be too obvious, become dull, or be unimaginative. Designers, decorators, and others working in the design field should not overuse symmetrical balance. They should create more inspiring design solutions. Figure 5.1 shows a symmetrical or formal balance arrangement of furnishings.

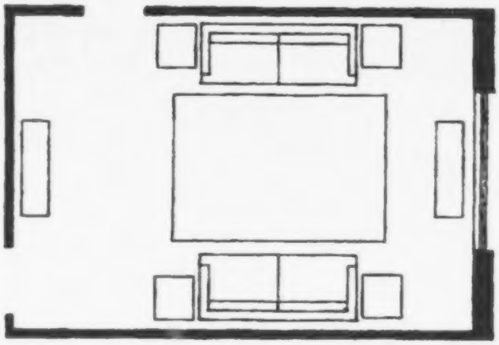


Figure 5.1

Asymmetrical balance, or informal balance, means that the design is balanced but different on each side of the design center. Asymmetrical balance is more popular today because society has become much more casual. Because this type of balance is more casual, it allows for personal expression and adds variety. With asymmetrical balance, one large object can be balanced by a group of smaller ones.

Asymmetrical balance stirs emotions quicker than does symmetrical balance because it suggests movement and spontaneity. Asymmetrical balance arouses our curiosity because we want to see how equilibrium or balance was achieved. Asymmetrical balance allows more freedom and flexibility, but it is more difficult to create. It requires more thought and creativity than does symmetrical balance. Various textures, forms, colors, patterns and ornament are used together to achieve asymmetrical balance. Figure 5.2 illustrates asymmetrical balance in the arrangement of furnishings. The illustration in

Figure 5.3 shows the difference between symmetrical and asymmetrical balance.

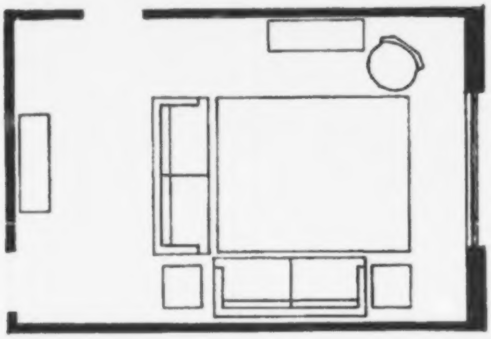


Figure 5.2

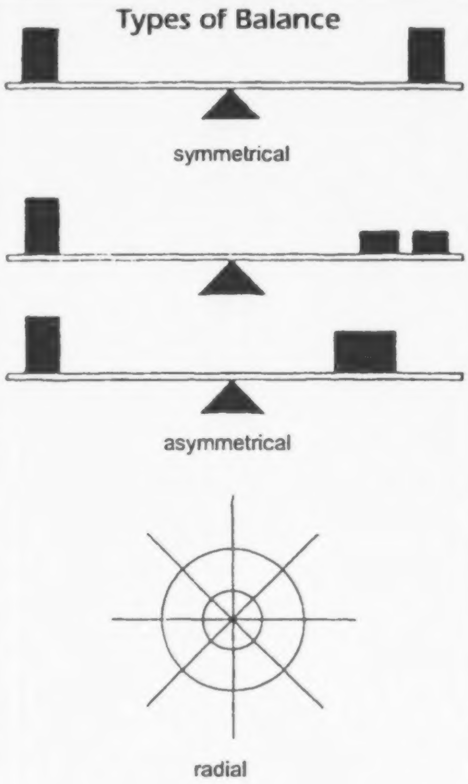


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Figure 5.3

Radial balance, also known as radiation, is established when all components of a composition are balanced around a center. Think of a hubcap in a car tire. The spokes radiate from the center and are repeated and balanced around the middle of the wheel. The very center of the composition, in this case the center of the hubcap, becomes the focal point. In an interior space, it might be a circular furniture grouping, an elaborate round floor design, or a lighting fixture.

Radial balance is considered less important than the other types of balance, but it can add variety to a space by the addition of curves that break up the monotony of rectangular shapes of the other two types of balance. All three types of balance can exist in a space to really create nice variety. At least two should be present to keep a space from being too dull or unified. Figure 5.4 illustrates radial balance in comparison to symmetrical and asymmetrical balance.

◆ *Essential Questions:* ◆
Balance

1. What is the difference between symmetrical balance, asymmetrical balance, and radial balance?
2. Why is balance important in design?

RHYTHM

The second major design principle is rhythm. ***Rhythm*** is organized movement and helps us to achieve unity and variety; thus harmony. Rhythm can be created through repetition and alternation, gradation or progression, transition, contrast, or radiation.

Repetition is a type of rhythm that is created by repeating color, pattern, or texture. This can be achieved in a space through the

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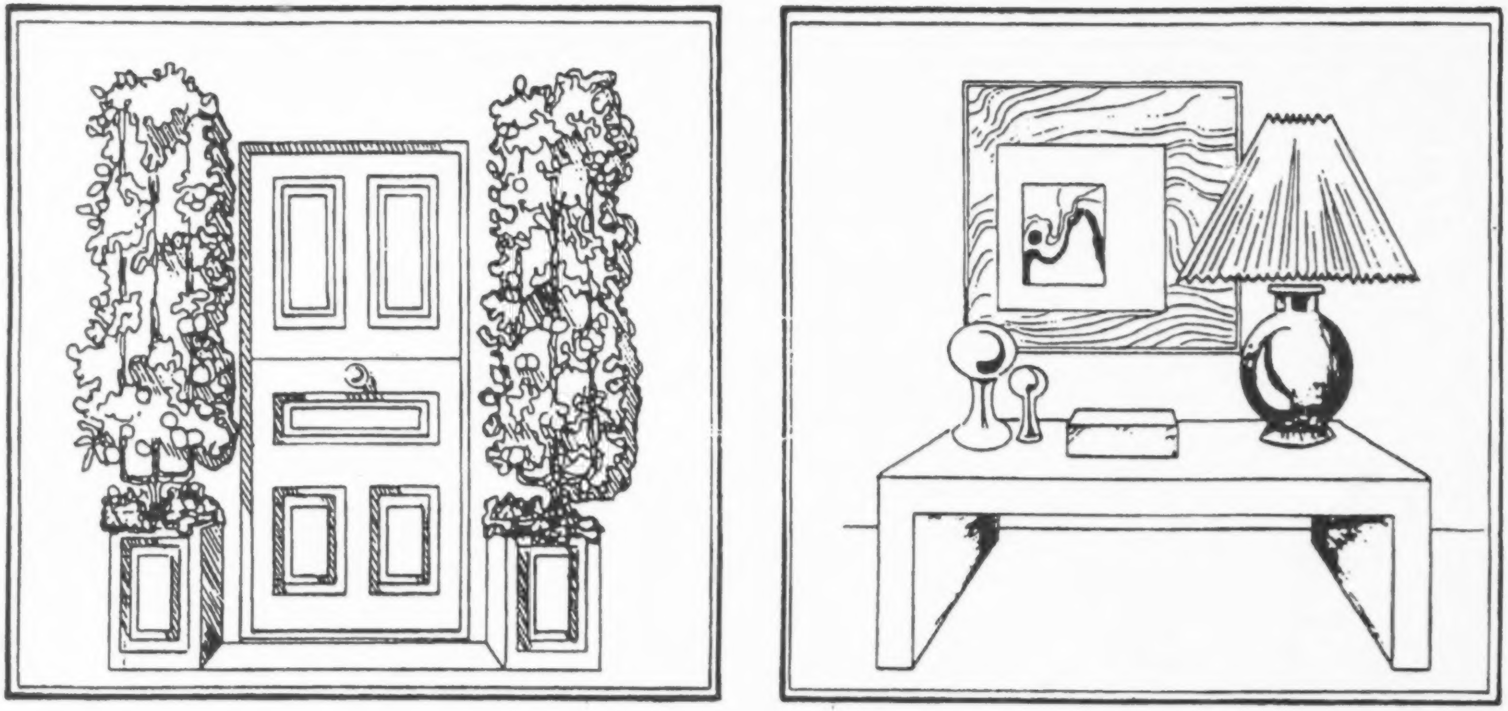
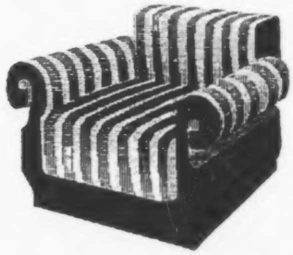
Balance


Symmetrical or formal balance

Asymmetrical or informal balance

Figure 5.4



repetitive use of a fabric on the sofa, draperies, and chair pillows.

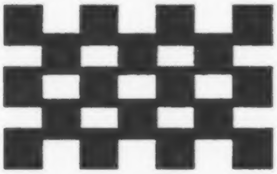
Alternation is a type of repetition. It is the sequence of two or more components by which the eye can follow a rhythmic pattern. Examples include herringbone floor patterns, coffered ceilings, and pillows that are placed on a sofa in this manner: red, yellow, red, and yellow. There is a systematic rhythm to these components.

Rhythm created by ***progression*** or ***gradation*** is accomplished by making gradual, successive changes in a design. It is a sequence produced by increasing or decreasing one or more qualities. Progression is ordered systematic change. Examples of this could be using three candlesticks with three different heights together on a table. They have a stair-stepped or progressive rhythm.

Rhythm by ***transition*** is achieved through the use of continuous lines moving throughout a design. A continuous line causes the eye to move along the design or space in a rhythmical manner. Crown molding or chair rails are often used in a space to create transition.

Contrast, or opposition, is often used to create rhythm because it is an abrupt change instead of a gradual change. Contrast is seen in three ways:

1. Contrast is seen in 90-degree angles; where vertical lines meet horizontal lines, such as where a ceiling meets a wall. Often, crown molding is used here to help soften this intersection.
2. Contrast is seen by mixing open and closed patterns, busy patterns with plain, or light with dark. The hues, black and white, are the most contrasting colors of all. So, using a black and white tile floor adds a great deal of contrast to a room as well as adding alternation.
3. The final way to achieve contrast is by mixing rounded or curved shapes. A square table combined with round chairs utilizes contrast.



The final way that rhythm can be created in a space is through ***radiation***. As mentioned earlier, radiation and radial balance are essentially the same thing. Floors of large hotel lobbies often use elaborate circular floor patterns to achieve interest. Perhaps the ceiling of a nice restaurant has a circular dome in the ceiling. This would certainly add radiation to an interior.

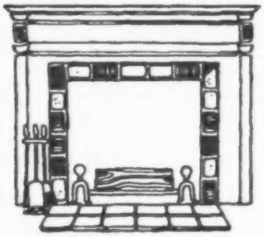
Rhythm can be obtained with color by repeating colors present in fabrics of upholstered pieces in paint, paintings, art objects, or other upholstered pieces. Another important principle of rhythm is to have a color transition from one room to another. Rhythm can be created by using wall-to-wall carpeting of the same color throughout the house and by using related colors in the various rooms of the home.

◆ **Essential Questions: Rhythm** ◆

1. What are the four ways that rhythm can be achieved?
2. How is color used to create rhythm?

EMPHASIS

Emphasis is the principle of design that centers attention on the most important item in an arrangement and allows rhythm to carry the eye from this point to the other areas of interest. Emphasis creates order and captures attention. It is often referred to as the center of interest, focal point, or dominant idea.



The important part of a design can be emphasized in several ways. Objects can be used to create emphasis. The center of interest in a room arrangement could be a window area, sofa, or a wall with a fireplace. The focal point of a table arrangement could be a colorful floral arrangement or brightly colored napkin. Use of contrasting hues or values in color, leading lines, unusual detail, and groupings or placements of objects are ways to achieve emphasis in a design.

In a decorating scheme, one or two colors should be used most to create the major emphasis. Light-colored backgrounds emphasize dark pieces of wood furniture. Dark backgrounds blend in with the piece. Furniture that is large or that has a brightly colored cover can be de-emphasized by covering it in a color that blends in with its background.

There are two guidelines to follow to achieve effective emphasis. First, the point of emphasis should dominate the room or design but should never overpower everything else. Second, no other features should compete with the focal point.

A term that needs to be mentioned in relation to emphasis is visual weight. ***Visual weight*** is the psychological impact that an object makes on us. How an object attracts the eye and how much it is noticed defines the visual weight of an object. An element that can add visual weight to an object is color. A bright red attracts the eye much more than a dull blue-gray. Textures add eye appeal to an object, especially really rough or reflective surfaces. Irregular forms seem to have more visual weight than circles or rectilinear objects. Size naturally affects visual weight. A large, highly-patterned object is more noticeable than a small item of the same pattern. This is not to say that a small object is never noticed more than a large object. A small object can have more visual weight than a large object, but elements must be altered to achieve this effect. See Figure 5.5.

◆ **Essential Questions: Emphasis** ◆

1. What are two guidelines to follow for effective emphasis?
2. Why is emphasis important in design?

PROPORTION AND SCALE

The terms proportion and scale are often used interchangeably. However, they do have very different meanings.

Proportion is the relationship of one part to the whole object. It is the relationship of masses and areas. Cartoonists often violate

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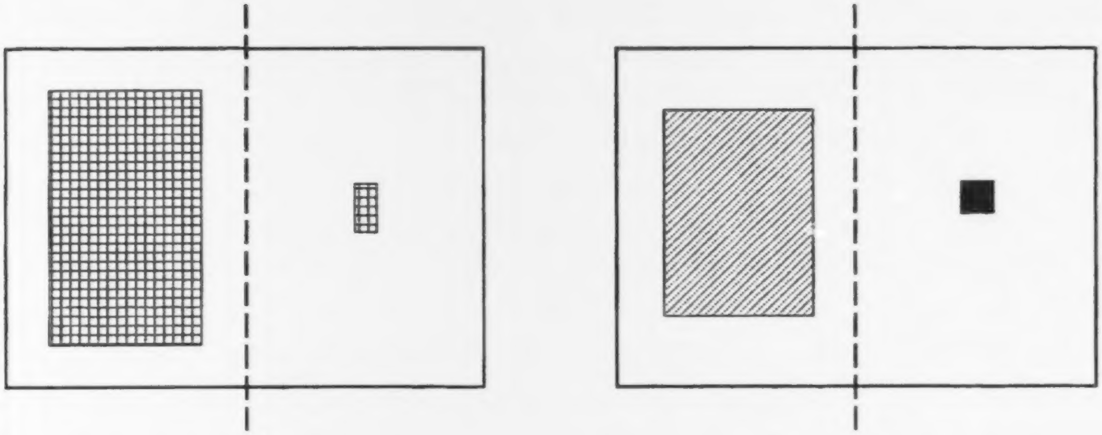
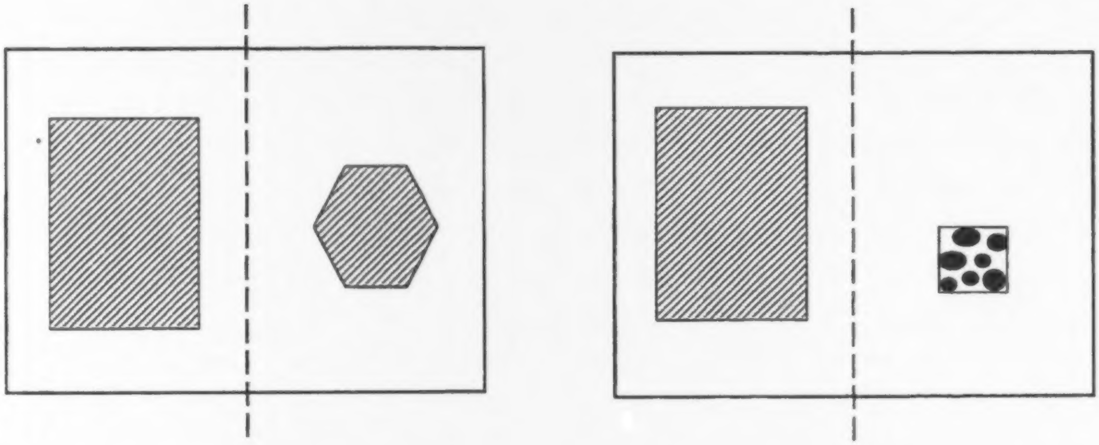
Visual Weight



The small shape has less visual weight when compared to the larger shape.

The small shape has more visual weight when compared to the larger shape.



The small shape has equal visual weight when compared to the larger shape.

The small shape has more visual weight when compared to the larger shape.

⇨ ***Figure 5.5***

the principle of proportion to create humor. They may have a huge head on a small body or a large nose on a small face. Generally, uneven space divisions are more interesting than spaces divided equally.

The Greeks were the masters of creating pleasing proportions. They developed a formula for achieving pleasing proportions called ***"The Golden Mean."*** This formula concludes that the smaller part has the same ratio to the larger as the larger part has to the whole. These pleasing ratios are 2:3, 3:5, 5:8, and 8:13.

Let's say a person wants to tie a drapery back on a window that is six feet tall. If the ratio 2:3 were to be used, then the tieback could be located two-feet from the floor or four-feet from the floor. The first is usually more pleasing. See Figure 5.6 for an example of the drapery tieback.

Pleasing Ratios

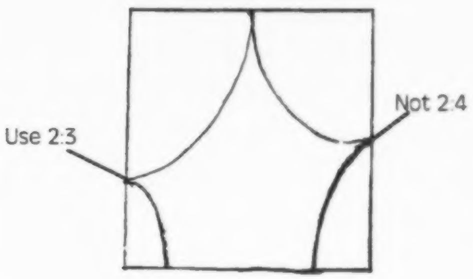


Figure 5.6

Unlike proportion, ***scale*** is the relative size of an object in relation to other objects or space. Proportion deals with the parts of one object and how they relate to each other. Scale compares two separate objects. An example of bad scale would be to place a really huge bed in a very small space. When the furnishings agree with the space in size, they are said to be in scale. The scale of an object can only be judged by comparing it to something else, such as another object, a person, or the area in which it is placed. That is why scale is often discussed in terms of human scale and architectural scale.

Human scale means that furnishings agree in scale to human dimensions. A rocking chair two feet tall is in proper scale for a four-year-old child, but not to an adult. Architectural scale means that furnishings agree in scale to the architecture. An extremely huge room needs very large furnishings although they might be too large for most individuals.

Proportions are important considerations when buying furnishings. It is important to remember that scale also is affected by fabric patterns, textures, weights, and colors. A piece of furniture always should be in proportion to the other pieces of furniture in a room along with the room itself. Beautiful proportions only can be created when scale is correct.

Colors should be used in varying proportions. Walls and floors represent the largest portion of a room. The colors used on these areas greatly influence the total effect of the room. As a rule of thumb, light and neutral colors can be used in larger proportions than dark or bright colors. Occasionally, this rule can be broken, but for the most part, large areas of bright colors or prints are overpowering and disturbing to individuals who must live with them on a day to day basis.

◆ Essential Questions: ◆
Proportion and Scale

1. How does scale differ from proportion?
2. What is meant by "The Golden Mean?"
3. What is meant by human scale?

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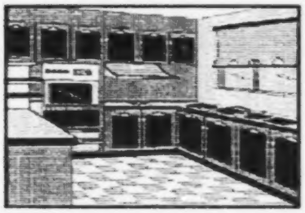
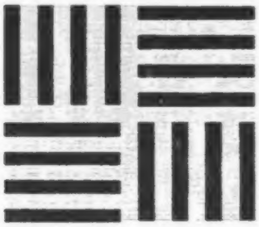
HARMONY

The final design principle is harmony. ***Harmony*** can be defined as a pleasing or congruent arrangement of parts resulting when variety and unity are achieved. First one must understand the words "unity" and "variety."



Unity is created through consistency resulting from the repetition of one or more design elements. There are five ways to achieve unity:

- **Repetition:** to repeat exactly one or more elements.
- **Similarity:** repeated elements are only similar, not identical.
- **Congruence of parts:** shapes or forms are the same but different sizes. Placing a smaller round table on a larger round rug demonstrates this technique.



- **Components express basic character:** a "country" kitchen, a "traditional" living room
- **Enclosure:** arrangement of objects into groupings.

Variety is having an assortment of different qualities especially of the same design element. Examples would be mixing various elements, such as the following:

- **Textures:** (visual and tactile) smooth, rough, shiny, dull, cold, and warm
- **Lines:** (straight, angular, and circular) verticals, horizontals, diagonals, zigzags, circular curves, flowing curves, and tightly curved lines
- **Shapes:** rectangles, triangles, and circles
- **Forms:** cubes, cones, pyramids, cylinders, and spheres
- **Color:** red, orange, yellow, blue, green, and purple
- **Ornament:** naturalistic, stylized, abstract, and geometric

Unity + Variety = Harmony. If only variety exists in a room, then there is no unifying element in the room and confusion results. If only unity exists in a space, then there is no variety. Therefore, monotony is the result.

◆ ***Essential Questions:*** ◆

Harmony

1. Why is harmony so important in design?
2. How is unity achieved?
3. How is variety achieved?
4. What is meant by "unity + variety = harmony?"

Chapter Highlights

- The parts that make up a design are called the elements of design. There are no rigid rules for combining the elements to create a design, but there are basic guidelines to follow. These guidelines are called the principles of design. They include balance, rhythm, emphasis, proportion and scale, and harmony.
- Balance is the principle of design that produces a sense of equality between opposite elements. The elements in a balanced design appear to be equally distributed on both sides of a central focal point.
- Color, shape and form, texture, and line are factors that produce balance. Once achieved, balance helps to create unity in a design. There are three types of balance: symmetrical, asymmetrical, and radial.
- Rhythm is organized movement and helps us to achieve unity and variety; thus harmony. Rhythm can be created through repetition and alternation, gradation or progression, transition, contrast, or radiation.
- Repetition is a type of rhythm that is created by repeating color, pattern, or texture.
- Emphasis is the principle of design that centers attention on the most important item in an arrangement and allows rhythm to carry the eye from this point to the other areas of interest. Emphasis creates order and captures attention. It is often referred to as the center of interest, focal point, or dominant idea.
- There are two guidelines to follow to achieve effective emphasis. First, the point of emphasis should dominate the room or design but should never overpower everything else. Second, no other features should compete with the focal point.
- Proportion is the relationship of one part to the whole object. It is the relationship of masses and areas.
- Scale is the relative size of an object in relation to other objects or space. Proportion deals with the parts of one object and how they relate to each other. Scale compares two separate objects.
- Harmony can be defined as pleasing or congruent arrangement of parts resulting when variety and unit are achieved.
- Unity + Variety = Harmony. If only variety exists in a room, then there is no unifying element in the room and confusion results. If only unity exists in a space, then there is no variety. Therefore, monotony is the result.

Chapter 6

Design Considerations

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

1B Exhibit how the elements of design can create various effects.
3A Analyze products to determine the appropriate style of design.
7B Utilize knowledge of design application, selection, and construction to complete furnishings projects.

Chapter Vocabulary

abstract design
adjacency studies
client profile
concept statement
decorative design
design development phase
design honesty
ergonomics
ergonomists
evaluation phase
function
implementation phase
materials
MSDs
naturalistic design
preliminary design phase
presentation drawings
programming phase
punch list
structural design
style
stylized design
technology

Individuals react to design daily. People make conscious design decisions about the clothes that they wear each day. For example, individuals have to decide on the slacks, shirt, belt, socks, and shoes in which they will dress. Ladies must decide what jewelry is appropriate for the outfit that they have chosen.

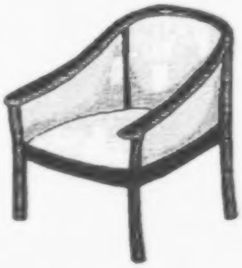
Design influences the clothes people buy as well as the stores in which they shop. Some stores have a pleasant atmosphere that encourages customers to shop and browse. The design of a restaurant can determine how successful it will be. It is proven that people want the food in a restaurant to be tasty but they are drawn to restaurants that have a pleasing mood or atmosphere.

FACTORS THAT INFLUENCE DESIGN

It must be understood that early design was original, such as when cave men developed the wheel. They saw that there was a need and they invented the design. The wheel has gone through many changes over the years from the type of materials chosen, the type of technology used, and the style of design. All of these decisions must be determined before the design can actually be completed. While the function of the wheel is not original anymore, various design changes to the wheel create new products. Therefore, before a design can be created, four things must be determined:

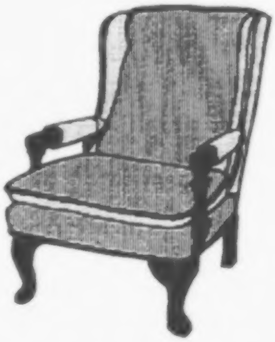
- The design must have **function**.
- The types of **materials** need to be selected for the design.
- The **style** of design should be chosen.
- The type of **technology** for making the design must be determined.

Function refers to the purpose of the design. If someone wants to design a chair, then the function of the chair, "to sit," must be considered. It also needs to be mentioned that Louis Sullivan first applied the phrase "form follows function" to architecture. This means that an object should look like what it does. In other words a chair should look like it can be sat on.



The ***materials*** that are chosen for a design are of utmost importance. When designing a chair, the materials must be appropriate. Wood, molded heavy plastic, or steel would be materials that are sturdy and could support the human body; however, merely using paper would not be durable enough for a chair.

Style is another important factor to consider when designing. Style is ever changing and people are constantly changing their minds about the type of style they like. Style relates to traditional and modern. A traditional chair could be a Chippendale or Queen Anne chair. A modern style chair might be a large plastic bubble chair, perhaps one that looks like a large baseball glove. It should be understood that the style of the object directly affects the materials chosen. A traditional Chippendale chair would look rather odd if it were made out of molded plastic.



Technology is the final design decision. Style, materials and technology are all closely related. The materials selected will often determine the type of technology that is needed to make the design. The traditional Chippendale chair must have special machinery to do the carving or it will have to be chiseled by hand.

◆ ***Essential Questions:*** ◆

Factors that Influence Design

1. What four factors must be considered when creating a design?
2. Why are these factors important considerations for every design?

TYPES OF DESIGN

The two types of design are structural and decorative. A design that is primarily functional and made for a specific purpose or use is a ***structural design***. If a design is primarily aesthetic, or made for beauty and enjoyment, it is called a ***decorative design***.

Structural Design

All objects have structural design. Structure is the basic form created by the size, shape, color, and texture of an object. In structural design, the design is a basic part of the structure itself. The materials that make up the basic structure are often visible and are used to enrich the design. Much of modern furniture and architecture relies completely on structural design for its beauty.

The function of an object should determine its structural design. Good structural design means that an object is practical. The following questions in Figure 6.1 can be asked when evaluating the structural form of a mug in relation to its function. The questions help determine whether the design of a mug is practical for its use. The use of a mug is to hold a hot beverage.

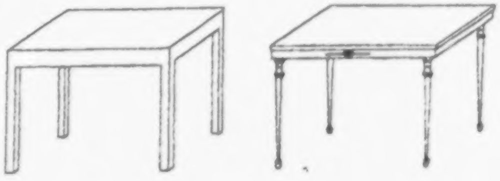
The structural design of an object can be a flat two-dimensional shape as well as a three-dimensional form like the mug. Structural design should be considered when selecting a wall piece. The following represents a checklist for evaluating the structural design of a wall piece:

1. The shape of the wall piece should be suited to its use.
2. The texture of the wall piece should help keep dust from collecting.
3. The object should have accessories to enable the piece to be hung on the wall.
4. The object should be light enough for the wall to hold its weight.

Decorative Design

The decorative design of an object is design which adds to the structural shape. It is decoration that is applied to the surface of the object. Decoration should not be used too freely and should follow the shape of the object.

The two tables represent an example of structural design and decorative design. The main concern in decorative design is organizing the elements of design to harmonize with the structural shape of the item, the materials and processes used to create the item, and the purpose for which the item is used.



The relationship between decorative design and use or function of the item is very important. The top of a copper accessory box might have a relief design (a design of figures or forms which project from the surface) which does not interfere with its use, but the same design on a tray would interfere with its use for setting drinking glasses flat on the surface. A partly three-dimensional design, such as a hooked piece with several heights of yarn loops, would be appropriate as a wall piece, but very impractical and perhaps dangerous as a floor covering. The intended use of an article determines the characteristics of a decorative design.

Both structural and decorative design should be suited to the uses of an object and to the materials from which the object is made. A design should reflect the qualities of materials used and not try to imitate another material. This accurate representation of materials is called ***design honesty***.

Structural Design of a Mug

- Must the mug be held as a teacup, or is the handle shaped so a person can grasp it firmly with the thumb on top and one finger through the handle with no upward curve of the lower part of the handle to cause the third finger to slide upward against the hot mug?
- Are the sides sufficiently straight to prevent dribbling and to allow a person to drink comfortably?
- Is the mug sufficiently high and narrow enough at the top to prevent the beverage from cooling too quickly?
- Are the sides straight enough to prevent the beverage from splashing over the rim?
- Is the base sturdy enough for the cup to rest securely in the saucer or plate designed for it?
- Is the handle molded as a part of the mug or is it securely attached to the bowl of the cup?

Figure 6.1

Plastic furniture made to resemble wood is not as aesthetically pleasing as plastic furniture made to emphasize the beauty and unique characteristics of plastic. Plastics are light, flexible, and colorful, and they can be molded into many shapes. Plastics are beautiful as they are. They do not have to resemble wood, brick, or any other material to be attractive.

◆ ***Essential Questions:*** ◆
Types of Design

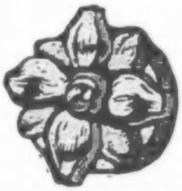
1. What determines structural design?
2. What is the main concern in decorative design?

STYLES OF DESIGN

Good design based on the elements and principles of design is not restricted to just one style of representation. Designs may be represented in naturalistic, stylized, or abstract form. Regardless of the style, designs are judged by the way that the elements and principles are blended to create the desired effect.

Naturalistic Design

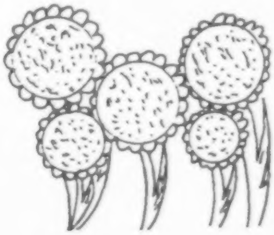
Naturalistic design or realistic design represents subjects just as they are found in nature. Whether the theme is flowers, animals, landscapes, or buildings, the design strongly resembles the actual object. Naturalistic designs must be used carefully--especially on functional objects. Fabric with a realistic landscape design on an upholstered chair



might not be attractive, but the same fabric would be appropriate for a wall hanging. A design of butterflies and flowers might be beautiful on a decorative china plate, but vegetables and meat might not look appealing if served on the plate. Naturalistic designs are often used on furnishings.

Stylized Design

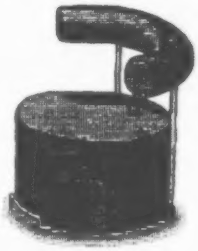
Stylized design or conventional design is inspired by natural forms, but they are not accurately represented in the design. Forms can be simplified or exaggerated, proportion can be distorted, and the color can be unrealistic.

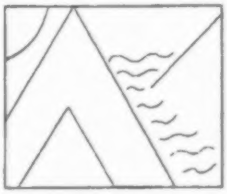


Stylized design makes it possible to relate natural forms to the object being decorated. The design does not compete with the real object for attention. Naturalistic flowers on a vase would compete for attention with flowers in the vase. However, an appropriate stylized design would not compete with the real flowers.

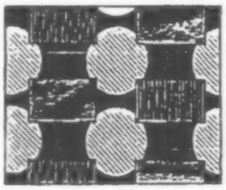
Abstract Design

Abstract design is an imaginative, impressionistic form of representation. Abstract designs also can be inspired by natural forms, but these are not easily recognized in the design. In abstract design, details are eliminated and the subject is simplified, exaggerated, or rearranged until the design suits the object. Geometric designs are abstract designs that use mathematical rather than natural forms. Shapes such as circles, triangles, and rectangles can be arranged to form complicated patterns. Abstract designs are often associated with modern furnishings. Two abstract designs are illustrated. One is inspired by a natural form and one by a geometric form.





Natural



Geometric

◆ Essential Questions: ◆
Styles of Design

1. What is the difference between naturalistic design and stylized design?
2. What is an example of abstract design?

APPLYING THE ELEMENTS AND PRINCIPLES OF DESIGN

The final goal of design is to select patterns, sizes, shapes, and colors that go well together and result in a pleasing appearance. For a formal effect, the elements of design should be followed very strictly with all aspects of the total design closely related. A precise and finished effect is the end-result. For an informal effect, design rules should be used more freely with the various aspects of design not as closely related. The results would be more casual or relaxed.

When selecting designs, the theme, character, or ideas to be expressed should be the first considerations. These considerations form the basis of the design. The theme gives unity to the total design.

The elements of design are space, line, shape/form, texture, and color. The principles of design are rhythm, emphasis, balance, proportion/scale, and harmony. The element and principles of design are discussed thoroughly in Chapters Four and Five. A design assistant will have many more opportunities to use his or her knowledge of the elements and principles of design. An assistant also should be aware of the basic types and styles of design. All these aspects of design must be considered before a total design can be produced successfully.

◆ ***Essential Questions:*** ◆
Applying the Elements and Principles of Design

1. How does a design with a formal effect differ from one with an informal effect?
2. Why is the theme of a design important?

ERGONOMICS

When designing products for individuals it is important to understand the human body. One size does not fit all. ***Ergonomics*** is the science of adapting furniture, tools, and appliances to accommodate different people's shapes, sizes, physical and mental limitations.

A mismatch between the physical requirements of a job the furniture, tools, and equipment being used, and the physical capacity of a worker can lead to musculoskeletal disorders (MSDs). ***MSDs*** are injuries and disorders of the muscles, nerves, tendons, ligaments, joints, cartilage, and spinal discs. They do not include injuries resulting from slips, trips, falls, or similar accidents. Examples of MSDs include carpal tunnel syndrome, tendinitis, sciatica, herniated disc, and lower back pain.

Risk factors that can contribute to MSDs include force, repetition, awkward postures, static postures, vibration, or cold temperatures. For example, workers who must repeat the same motion throughout their workday, do their work in an awkward position due to poorly designed furniture and equipment, or repeatedly lift heavy objects run a greater risk of developing MSDs.

Furniture that is comfortable for a person who is 6 feet 4 inches tall will most likely not be comfortable for a person who is 5 feet 4 inches tall. It has been learned through various studies that employees will work better and be more productive if they have seating that is comfortable for their body. ***Ergonomists*** are constantly creating more and more products that are universally designed to work for everyone. A good source of updated information on ergonomics is the OSHA Web site at www.osha.gov.

◆ ***Essential Questions:*** ◆
Ergonomics

1. What is ergonomics?
2. How are ergonomics used in the design field?

THE DESIGN PROCESS

When starting a design project the many decisions that must be made can often seem overwhelming. Most people just do not know where to start to organize everything into a pleasing arrangement. That is where the professional interior designer can be most helpful. He or she has the ability to visualize how colors will look in your space and to visualize furniture arrangements.

There are many important phases in the design process. These include the programming phase, the preliminary design phase, the design development phase, the implementation phase, and the evaluation phase.

Programming Phase

The first phase of the design process is the ***programming phase***. This stage can also be referred to as the research phase. It takes good research to create a design in which the client will truly be happy. The first thing that is necessary in designing for a client is to do a ***client profile***. This profile is completed by sitting down with the individuals who are going to use the space and finding out as much about them as one can. In a housing situation, the types of questions to ask include:

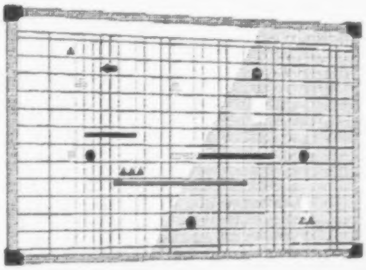
- How many people are living in the home?
- What is the lifestyle of the family – formal or informal?
- What are their likes and dislikes as far as colors, patterns, and materials, etc.?
- What kind of style of home do they want?
- Do any of the family members have special needs?
- Does the family entertain frequently?
- Do they have any pets living in the house?
- What is the budget of the job?

All of these questions will aid in finding a pleasing design solution.

Once the basic questions have been asked, then it is necessary to establish some basic guidelines. It is necessary to meet with the client to outline the scope of services that need to be completed. Sometimes clients will deny that the designer was told to perform certain duties. Writing down exactly what the client wants done and having them sign it eliminates any confusion.

The next part of the programming stage is to determine the budget and lay out the schedule for completing the project. Clients are often quite unrealistic in their desire to have a project completed since they are not always aware of what is involved in completion. The designer must be honest in the amount of time that the project will take. It is always best to allow more time than is really necessary. This will allow for any delays in ordering merchandise.

Some projects that a designer undertakes might require the use of specialized consultants. For instance, designers cannot move load-bearing walls. To determine what walls can be moved might require consulting with a builder before these suggestions are made to the client.



Preparing ***adjacency studies*** is important to major remodeling projects or new construction. These studies help the interior designer to know which spaces the client wants located next to each other. Matrix charts that show the relationship of different rooms aid the designer in helping the client make decisions.

Preliminary Design Phase

During the ***preliminary design phase***, the designer must make rough sketches. These sketches help to get the creative juices flowing. This phase is the major brainstorming phase. Bubble diagrams are useful drawings to help create relationships from one space to another.

Concept development is also a part of the phase. A ***concept statement*** is written to help the designer get a clear picture of what is to be achieved in the project. This helps to really define the problem.

Once preliminary drawings have been completed then they need to be shown to the client for their approval. Drawings may have to be redone many times until they are pleasing to the client. When the client has approved the preliminary drawings and necessary changes are made then the final design drawings are begun.

Design Development Phase

During the ***design development phase***, drawings are refined in more detail – floor plans, elevations, sections, and possibly perspectives. These drawings are considered professional work and are often referred to as ***presentation drawings***.

The following are the steps involved in the design development phase:

1. Select materials.
2. Purchase selected items.
3. Select colors and finishes.
4. Estimate costs.
5. Prepare final design.
6. Make presentation to client.

For large commercial spaces, boards with rendered or colored perspectives and floor plans will generally be presented to the board members for their approval.

Implementation Phase

The ***implementation phase*** is the phase where the design comes together. It is the designer who is responsible to schedule the workers to complete construction, paint, wallpaper, install flooring, make and install window treatments, and deliver furniture.

The interior designer has to be on site often in order to supervise workers and to be sure that things are being done correctly. Also the interior designer needs to go through the space and find defects that need to be fixed. A ***punch list*** is usually prepared which lists all things to be corrected; they are crossed off the list as they are completed.

Besides scheduling workers, the interior designer also needs to supervise the move-in. This is a critical time in the history of any project. The designer should assure the client that all goes well and without any confusion.

Evaluation Phase

No matter how well a project is planned and supervised, every project includes some complaints that surface after the project has been completed and is being used by the occupants. The ***evaluation phase*** is the period following the completion of the project where the designer evaluates the completed project and determines what adjustments are necessary. The designer needs to be ready to deal with these problems when they occur. It is important to the designer's future jobs how he or she handles these problems.

Responsible interior designers will do post evaluations at six months, one year, and even two years to determine how well the design is functioning for its occupants. This helps the designer to improve from job to job and to learn from each job.

◆ Essential Questions: ◆ The Design Process

1. Why is a client profile important?
2. Why is the concept statement important?
3. What are the steps in the design development stage?
4. Why is a punch list important?
5. What can an interior designer learn from the evaluation phase?

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Chapter Highlights

- ☆ Before a design can be created, four things must be determined: 1) the design must have function; 2) the types of materials need to be selected for the design; 3) the style of design should be chosen; and 4) the type of technology for making the design must be determined.

- ☆ The two types of design are structural and decorative. A design that is primarily functional and made for a specific purpose or use is a structural design. If a design is primarily aesthetic, or made for beauty and enjoyment, it is called a decorative design.

- ☆ The decorative design of an object is design which adds to the structural shape. It is decoration that is applied to the surface of the object. Decoration should not be used too freely and should follow the shape of the object.

- ☆ Both structural and decorative design should be suited to the uses of an object and to the materials from which the object is made.

- ☆ Designs may be represented in naturalistic, stylized, or abstract form. Regardless of the style, designs are judged by the way that the elements and principles are blended to create the desired effect.

- ☆ Stylized design makes it possible to relate natural forms to the object being decorated.

- ☆ In abstract design, details are eliminated and the subject is simplified, exaggerated, or rearranged until the design suits the object.

- ☆ The final goal of design is to select patterns, sizes, shapes, and colors that go well together and result in a pleasing appearance.

- ☆ Ergonomics is the science of adapting furniture, tools, and appliances to accommodate different people's shapes, sizes, physical and mental limitations.

- ☆ There are many important phases in the design process. These include the programming phase, the preliminary design phase, the design development phase, the implementation phase, and the evaluation phase.

Chapter 7

Selection and Coordination of Floor Plans

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

1B Exhibit how the elements of design can create various effects.
1F Analyze societal and cultural influences on the design of residential and nonresidential environments and their furnishings.
3B Determine appropriate use of accessories, lighting, materials, and space in various environments.
3C Describe trends in materials, accessories, lighting, and space utilization.
4D Arrange furniture and equipment to accommodate floor plans to meet needs and wants.

Chapter Vocabulary

architect's scale
collage
custom made
floor plan
presentation board
rough sketch
scaled drawing
symbols
templates

Most new homebuyers are unaware of the effects that their new environment will have on them. If a home is well designed then it has been planned to provide the owners with an efficient use of space. Many people buy a home and do not realize that what seemed to be minor inconveniences could become major inconveniences over time.

A design assistant may be asked to accompany an interior designer to a client's home. The assistant may be asked to sketch and measure the room so an accurate floor plan can be drawn later. Without an accurate drawing of the room, selecting and arranging furniture is difficult.

A ***floor plan*** is a scaled drawing showing the horizontal or side-to-side dimensions and arrangement of one or more rooms. It represents the view seen if one could look down on a room with no ceiling. Floor plans are accurate diagrams on which furniture groupings can be planned.

The floor plan is the interior designer's greatest tool. It gives an overall view of the space in a room or home. Accurate drawings clarify graphic communication and help eliminate miscommunication between designer and the client or customer.

The floor plan allows those involved to determine the amount of space there is to work with (room size), the amount of furniture needed, and the size of the furniture best suited for the room. All of this is done on paper, which saves time and energy. Changes can be made quickly and easily.

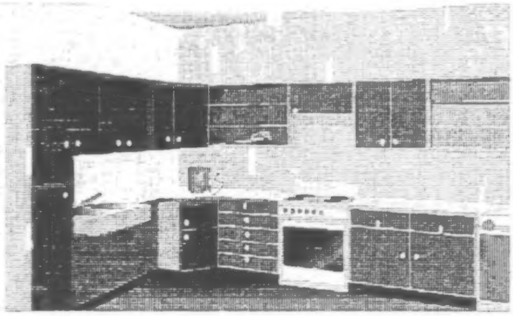
FEATURES TO LOOK FOR IN A FLOOR PLAN

Many people have differences in the way they choose to live. But most everyone wants his or her home to be designed efficiently. The following considerations will provide the homeowner with some important things to consider when purchasing a home.

Well-Designed Spaces

It is important that rooms of the home are placed for convenience and noise control. For example, it is important to have the kitchen located near the garage so that when unloading groceries the homeowner does not have to walk a great distance to unload them.

One of the most important spaces that should be well designed is the kitchen. Studies have shown that kitchens that are laid out into work centers function much better than do kitchens which are not. Some of these work centers are the clean-up center, the mixing center, and the cook center. Also it is important for efficiency sake that the primary cook does not have to take too many steps in the preparation of meals. The work triangle was developed to allow minimum and maximum distances between the sink, refrigerator, and the stove. For instance, it is suggested that when each leg of the work triangle is added together that the total figure be no less than 16 feet and no longer than 26 feet. When the work triangle gets larger than 26 feet it becomes too large to be efficient.



Another important concept that came out of studying kitchen design is the idea of first use. It is important to locate items in the kitchen in a place that it will first be needed. This makes using the space much easier. The shape of the kitchen is also important to the way that it functions. The most efficient shaped kitchens are the U and L shapes. Other shapes include the one wall kitchen and the corridor style kitchen.

It is important that dining or other eating areas are located near the kitchen. Formal dining rooms need to be located for privacy from the front door. The dining room should provide a pleasant atmosphere and should have adequate lighting. Another important consideration is the size of the dining room. A dining room functions the best when there is adequate room behind chairs when they are pushed away from the table. There should be at least 3 feet allowed for serving. When they are not being used for eating, dining areas are good spaces to be used for playing games or other types of activities.

Informal recreation and family spaces should be located near the kitchen and the outdoors. Formal areas should be located away from major circulation lanes and planned to be more private.

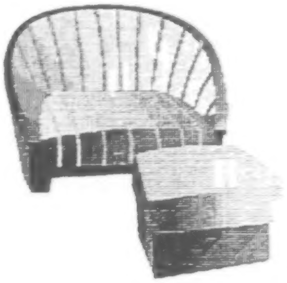
For maximum noise control, work areas such as the kitchen and laundry room should be located away from private areas such as bedrooms and dressing areas. It is also important that social or public spaces are located away from private areas so that if children go to sleep early the noise of television or guests will not wake them.

Efficient Circulation

It is important in a home that adequate space is allowed for circulation or traffic lanes without being excessive. The area that has the most wasted space is often times the hallway. Some people design homes that have too long a hall. It is best to avoid long hallways unless budget is not an issue.

An entry hall or foyer is the first place that guests enter upon coming in the front door. While it is nice to have an area adequate enough to take off coats and a closet in which to put them, too large of an entry hall can also be an area of wasted square footage.

When placing furniture in a room, adequate space should be left for circulation without walking through the conversation area. Approximately three feet is considered adequate space for circulation.



Another important consideration when buying a home is to be careful that rooms are not placed so that you must walk through one room to get to another. For instance, it would not be good if you had to go through a bedroom to get to the living room. Figure 7.1 lists the required amount of space needed for efficient circulation of people among the furnishings.

Well-Placed Openings

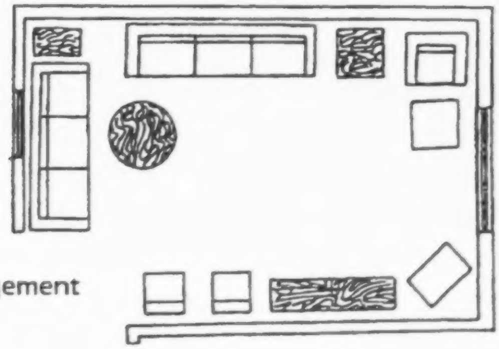
Arranging furniture can be quite challenging especially if nearly all the wall space is taken up with windows or doors. It is important that doors and windows are planned well so that there is still ample wall space on which to place furniture and accessories. Doors should be located near the edge of the wall and open toward a wall. Windows need to be placed at least a foot from an adjacent wall so that it will be easier to hang window treatments.

Adequate Space

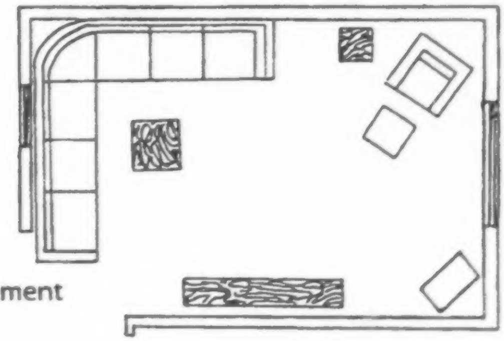
Homes need to be large enough to accommodate the number of family members in a home. It is generally said that a minimum of 200 square feet should be allowed per family member to provide adequate space. However, 500 square feet per person allows for a more comfortable living arrangement. Each room should be designed to have enough space to accommodate the necessary activities of the room.

Ample storage space is also a necessary consideration in purchasing a home. Everyone seems to run out of storage space no matter how much they have. Garages need to have enough storage for tools and equipment. Attics and basements can be used for extra storage. A rule of thumb on storage is that 10 percent of the total square footage of a home should be storage.

Effective Circulation



Crowded Arrangement



Better Arrangement

Required Spaces for Traffic Patterns

General	
Major traffic pattern	3'
Minor traffic path	2'
Dinning Room	
Space for pushed-in chair at table	20"
Space needed for getting in and out of a chair	30"
Serving space behind a chair	30"
Living/Family Room	
Space between sofa or chair and coffee table	15"
Seating space at desk or piano	36"
Bedrooms	
Space in front of closet	30"
Space in front of chest	36"
Space for dressing area	36"
Space for getting in and out of bed	30"
Space for making beds	20"

⇨ *Figure 7.1*

◆ **Essential Questions:** ◆

Features to Look for in a Floor Plan

1. Why is the floor plan considered the interior designer's greatest tool?
2. What are the work centers in the home?
3. What is the purpose of the work triangle in the kitchen?
4. Why is efficient circulation important in a home?

BASIC TYPES OF FLOOR PLANS

The Rectangular Plan

Although the rectangular plan is economical to build it is not quite as economical as a square-shaped house. The rectangular plan can be easily changed to accommodate either a traditional or modern design. For most people, this makes it a more desirable shape than the square plan.

The Square Plan

The square plan is the most economical floor plan to build. One reason for this is that it is limited to four corners. The roof and foundation are simple, which cuts housing costs greatly since these are generally the most expensive part of construction. The more a house alters from a square the more costly and complicated construction becomes.

The square plan does not usually allow for interesting outdoor living areas. Landscaping can help this problem. Many times square houses are turned at an angle on a lot that adds the uniqueness of a diagonal or diamond shape.

While the square plan is economical to build, it is often hard to layout rooms so that they have good separation for noise control. It can also be challenging to arrange rooms so that traffic can flow easily. Placing an entrance and hallway can be difficult in the square plan. Another problem with the square plan is providing for good natural lighting. The center of the house often is poorly lighted. However, with the addition of skylights this problem can be solved.

L, U, T, and H Plans

While more expensive to build, these plans offer more versatility in room arrangements as well as the ability to keep zones of the home separated, such as work and private zones. Natural lighting is easier to provide in these arrangements. Landscaping can be designed more interestingly than that of the square or rectangle. Figure 7.2 shows basic floor plan shapes.

The Multi-storied Plan

In multi-storied plans, living spaces are provided on two or more levels. A two-story home can provide versatile living accommodations. Some desirable characteristics of this type of plan are that the rectangular plan omits unneeded jogs in the foundation and roofing. Plumbing can be stacked from first to second floors to save costs.

Eliminating Costs

There are many ways to cut building costs of a new home. A factor that has already been mentioned is to locate bathrooms back to back or stack them in multi-storied homes. This saves plumbing costs. Other ways to save money when building a home are to specify standard size materials such as doors and windows. Today, it is possible to have anything ***custom made*** or made to order. However, custom work adds greatly to the building costs. The more custom-made features that are planned for a home, the higher the cost of building it will be.

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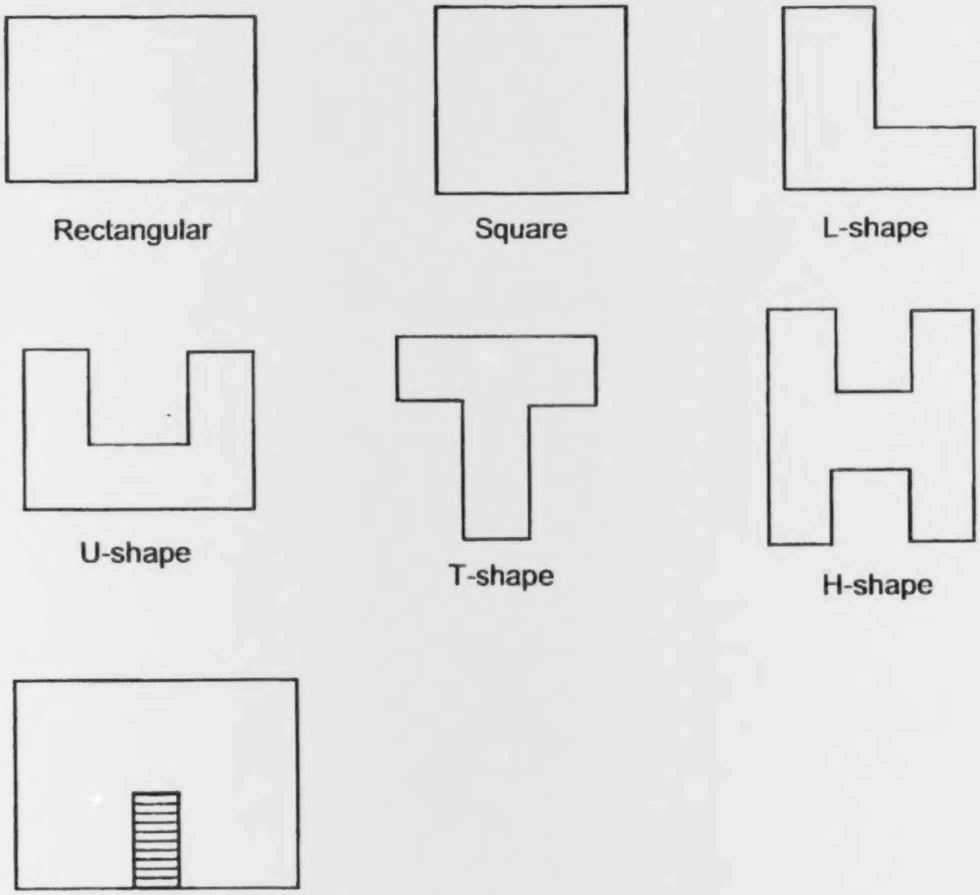
Basic Floor Plan Shapes



Rectangular

Square

L-shape

U-shape

T-shape

H-shape

Multi-storied

⇨ *Figure 7.2*

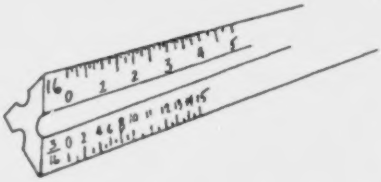
Measurement

It is difficult for a person to imagine how a room will look and how the furnishings will fit into the space. A ***scaled drawing*** of the room and furnishings is needed to create a picture for the client. The first step in drawing a scaled room layout is to make a freehand ***rough sketch*** of the room, marking all doors, windows, and any other projections or architectural features. The dimensions of the room should be measured with a steel tape and filled in on the rough sketch. Not only should the overall length and width of the room be measured, but also the smaller areas between each section of the room should be measured. When measuring doors and windows, only the openings–not the trim–should be measured. Note special features, such as fireplaces, and measure their sizes. The Figure 7.3 is an example of a rough sketch.

Layout

From the rough sketch, a scaled drawing can be made for use in arranging furniture. Graph paper, which is marked off in various dimensions, is available for making scaled drawings. The most common scales used for floor plans are 1/4 inch equals 1 foot for residential plans and 1/8 inch equals 1 foot for large commercial buildings. Sometimes a scale of 1/2 inch equals 1 foot is used for designing single rooms. This means that 1/4 inch or 1/2 inch on the floor plan represents one foot in the actual room. Using graph paper, one block or square equals one foot. The sample room shown is fourteen feet by twenty feet. Using a 1/4 inch to 1 foot scale, 14 of the 1/4 inch squares would equal 14 feet–the width of the room. Twenty of the 1/4 inch squares would equal 20 feet. This is the length of the room. The total size of the drawing would be 3 1/2 inches by 5 inches. Figure 7.4 is an example of a scaled drawing.

An ***architect's scale*** is used for transferring measurements to a scaled floor plan. An accurate drawing of the floor plan will eliminate any misinterpretations. Typical architectural scales are shown below. The architect's scale is three sided with two scales per side. Some scales are read from left to right while others are read from right to left. An architect's scale always should be read away from the zero mark on the scale to be used.

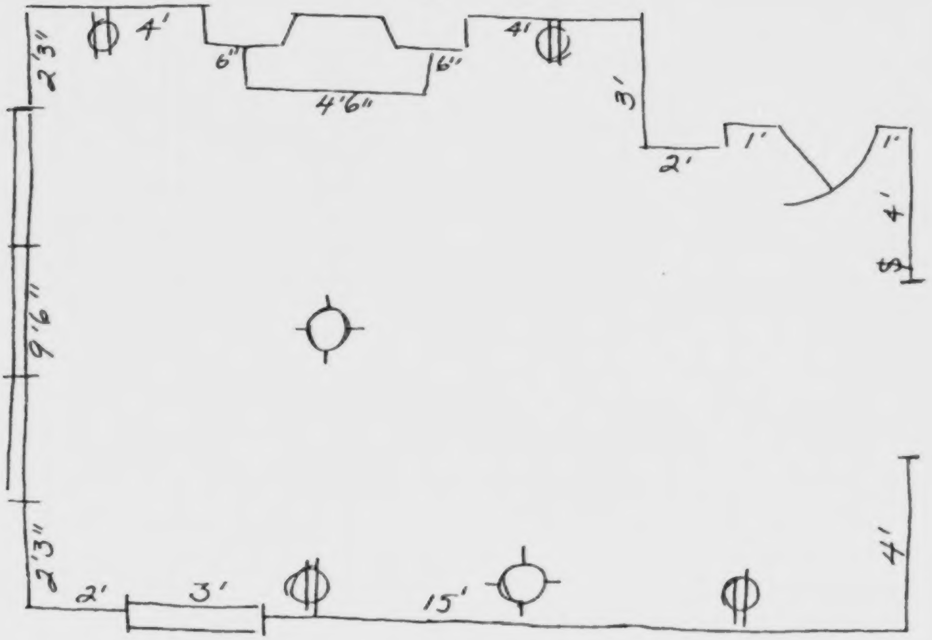


A pencil should be used to begin a scale drawing so that changes can be made easily. After completing the changes, a dark ink can be used. The plan should include doors, windows, electrical outlets, light fixtures, and any other items that could influence furniture placement. Symbols rather than words or drawings should be used to indicate electrical outlets, light switches, light fixtures, and plumbing fixtures. ***Symbols*** are used to indicate these items on floor plans. Figure 7.5 displays types of symbols used.

◆ Essential Questions: ◆
Basic Types of Floor Plans

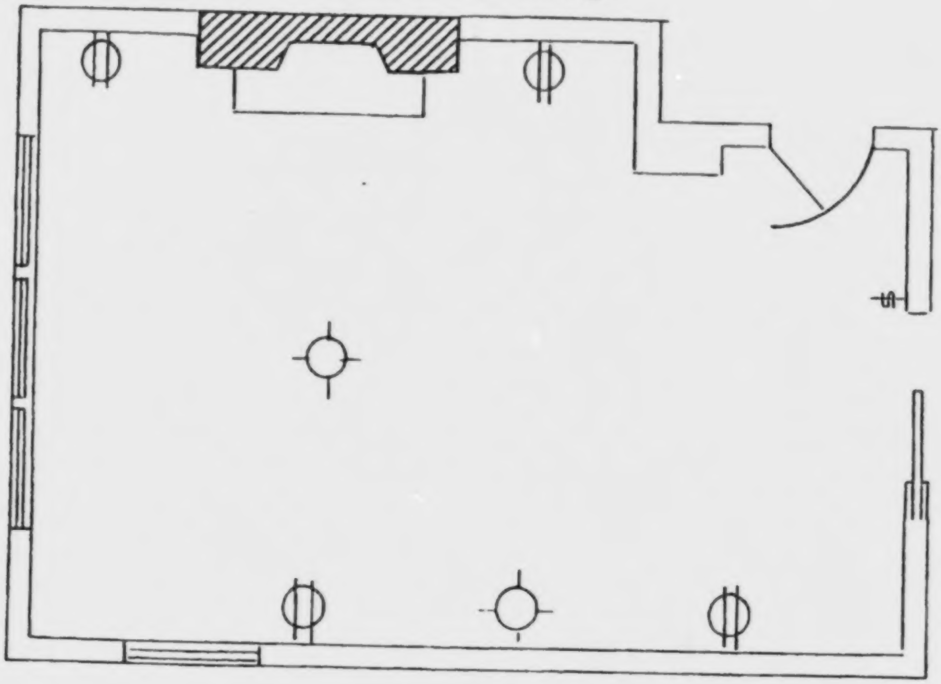
1. What are the advantages of the square plan?
2. What are some advantages to the multi-storied plan?
3. What are three ways consumers can reduce the building costs of a new home?

Rough Sketch

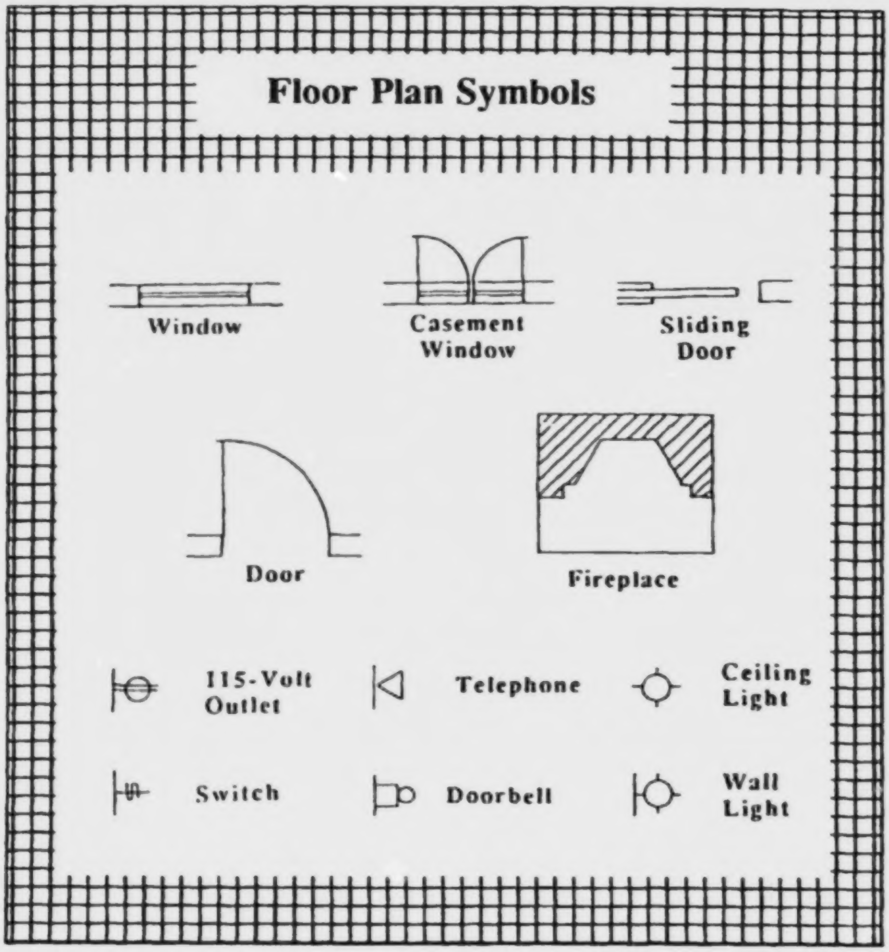

2'3"
4'
6"
4'6"
6"
4'
3'
2'
1'
1'
4'
$
9'6"
2'3"
2'
3'
15'
4'

⇨ ***Figure 7.3***

Scaled Drawing



⇨ ***Figure 7.4***


Floor Plan Symbols
Window
Casement Window
Sliding Door
Door
Fireplace
115-Volt Outlet
Telephone
Ceiling Light
Switch
Doorbell
Wall Light

⇨ *Figure 7.5*

FURNITURE PLACEMENT

After completion of the floor plan, it is time to furnish the room. ***Templates*** are pieces of paper, metal, or plastic cut in the shapes of pieces of furniture and in the same scale as the floor plan. If 1/4 inch equals 1 foot on the floor plan, 1/4 inch should equal 1 foot on each piece of furniture. Templates can be handmade or ready-made out of plastic. Peel-and-stick kits also are available.

When experimenting with furniture arrangements, it is important to remember that there is no perfect arrangement although some arrangements work better than others. To find a satisfactory arrangement, certain principles should be kept in mind. Figure 7.6 lists guidelines for placing furnishings.

After experimenting with the templates on the floor plan, select the furniture arrangement that seems best. The finished plan can have the furniture traced and drawn in or cutouts can be taped or glued on the paper. Figure 7.7 shows a computer-generated floor plan showing furniture arrangement in a one-bedroom apartment.

Guidelines for Furniture Placement

- Leave space in front of windows so they can be opened and closed
- Place each piece of furniture where its use is not obstructed.
- Keep the traffic paths in mind so that furniture will not block passageways and will not cause a safety hazard.
- Allow enough space around doors so they can be opened and closed without interfering with furniture.
- Balance the room by avoiding putting too much furniture in one part of the room.
- Never crowd a room. Having too much furniture is worse than not having enough.
- Select pieces that look good together and keep the scale of pieces in proper proportion to the room.
- Place the larger and the more important pieces first.
- Place large pieces parallel with the line of the walls.
- Do not place furniture directly against a wall. It scars the wall and scratches the furniture. Leave one or two inches of space between the wall and the furniture.
- Most rooms have a center of interest with everything planned around this. In a bedroom, the bed is usually the center of interest. In a dining room, the table and chairs are usually the center of interest.
- Make entry halls inviting with good lighting, a place for wraps, and a few well-chosen pieces of furniture or wall accessories.
- Keep different interest groups separated.
- Consider lighting needs for activities when placing each piece of furniture.
- Have artificial light near a mirror so that it reflects light into the face of the individual in front of the mirror.

⇨ ***Figure 7.6***

A design assistant usually will not be given the responsibility of planning a furniture arrangement for a client's home. This is the responsibility of the interior designer. An assistant may have opportunities to arrange furniture in the store or in displays. The guidelines of furniture arrangement and experimentation should be used to find the best arrangement for the situation.

◆ Essential Questions: ◆
Furniture Placement

1. What are three guidelines to remember when placing furniture in a room?
2. How does an interior designer use templates?

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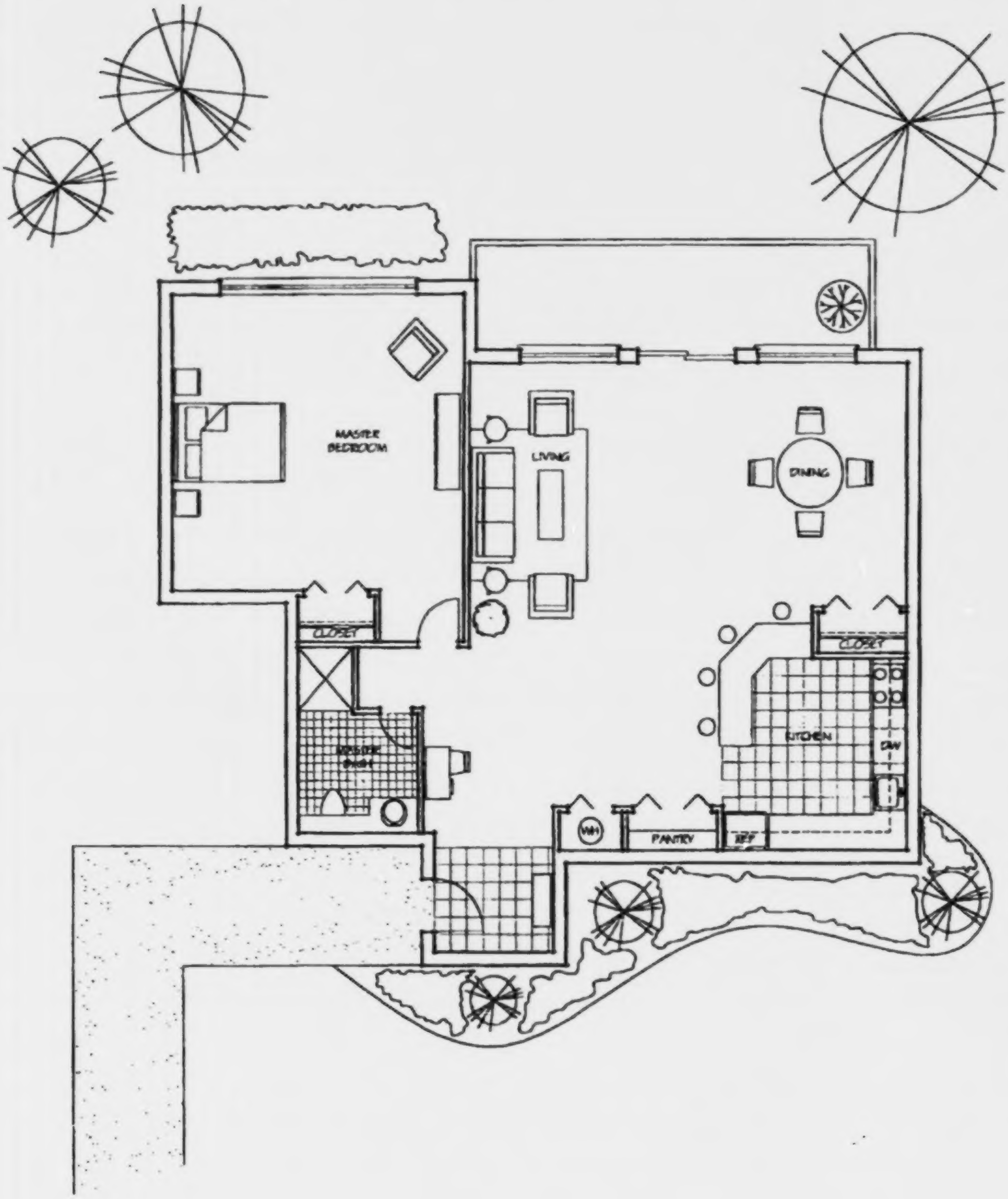
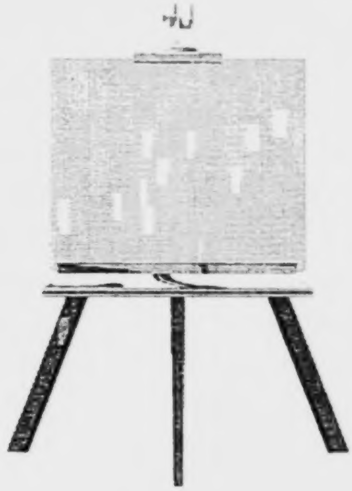
Computer-Generated Floor Plan


MASTER BEDROOM
LIVING
DINING
CLOSET
MASTER BATH
KITCHEN
CLOSET
DW
WH
PANTRY
REF

⇨ *Figure 7.7*

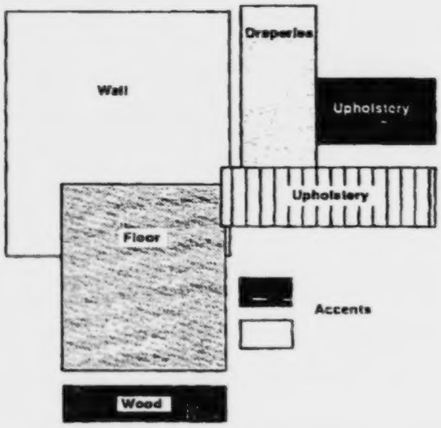
PRESENTATION BOARDS

A design assistant should know and understand the process an interior designer uses to evaluate and plan rooms that satisfy clients. An assistant most likely will not be given the responsibility of planning a room decor or choosing the colors and patterns for an interior. However, the assistant may be asked to cut fabric swatches selected by the client and the designer and combine them in a collage for presentation. A ***collage*** or a ***presentation board*** is a group of samples of selected fabrics, wallpapers, furniture, and paint colors and styles attached to a sturdy board used to show the client. An assistant should understand the process used to arrive at the selected fabrics and patterns and the purpose of a collage or presentation board.



The next step in the design process is to develop the collage. Each room should be done separately, but the home should be planned as a complete unit. Basic color combinations should be selected first. A picture, a pattern in a fabric, or an accent piece might be the inspiration for the color scheme. Experimenting with various color samples can provide additional ideas. When planning for furnishing a new house or completely redoing a room or house, the designer makes decisions on floor coverings, wall coverings, woodwork, furniture, window treatments, then accessories. Color, texture, balance, rhythm, and proportion/scale must be considered together if a harmonious and pleasing look is to be created.

To make a collage, pieces of samples representing the floor, walls, furniture, window treatments, and accessories should be obtained. The samples should be cut in sizes equal to the approximate proportion in which they will be used in the room. The samples should be arranged on a background heavy enough to support them. Illustration boards are similar to picture frame mats and are used most frequently. A collage helps the client imagine how the room will look. Being able to see the colors and patterns represented in proportion to their intended use can help the client decide if the decor is appropriate before spending any money in the decorating process. Figure 7.8 is an illustration of a sample collage.



◆ *Essential Questions:* ◆
Presentation Boards

1. What is the purpose of a collage or presentation board?
2. How is the collage made?

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Chapter Highlights

☆ A floor plan is a scaled drawing showing the horizontal or side-to-side dimensions and arrangement of one or more rooms.

☆ The floor plan is the interior designer's greatest tool. It gives an overall view of the space in a room or home. Accurate drawings clarify graphic communication and help eliminate miscommunication between designer and the client or customer.

☆ One of the most important spaces that should be well designed is the kitchen. Studies have shown that kitchens that are laid out into work centers function much better than do kitchens which are not. The work triangle was developed to allow minimum and maximum distances between the sink, refrigerator, and the stove.

☆ When placing furniture in a room, adequate space should be left for circulation without walking through the conversation area. Approximately three feet is considered adequate space for circulation.

☆ It is generally said that a minimum of 200 square feet should be allowed per family member to provide adequate space. However, 500 square feet per person allows for a more comfortable living arrangement.

☆ The most common scales used for floor plans are 1/4 inch equals 1 foot for residential plans and 1/8 inch equals 1 foot for large commercial buildings. Sometimes a scale of 1/2 inch equals 1 foot is used for designing single rooms.

☆ When experimenting with furniture arrangements, it is important to remember that there is no perfect arrangement although some arrangements work better than others.

☆ A design assistant should know and understand the process an interior designer uses to evaluate and plan rooms that satisfy clients.

☆ A collage or a presentation board is a group of samples of selected fabrics, wallpapers, furniture, and paint colors and styles attached to a sturdy board used to show the client. An assistant should understand the process used to arrive at the selected fabrics and patterns and the purpose of a collage or presentation board.

☆ To make a collage, pieces of samples representing the floor, walls, furniture, window treatments, and accessories should be obtained. The samples should be cut in sizes equal to the approximate proportion in which they will be used in the room.

Chapter 8

Selection and Coordination of Furnishings

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

1E Apply guidelines for coordinating furnishings.

1F Analyze societal and cultural influences on the design of residential and nonresidential environments and their furnishings.

4B Compare furniture and equipment needs of families in different stages of the life cycle.

4C Evaluate economic considerations when selecting furniture and equipment.

4E Describe considerations for selecting furniture and equipment to accommodate persons with special needs.

4F Utilize sources of information on changing trends and technology related to furnishings and equipment.

Chapter Vocabulary

adaptations
aging stage
antiques
Art Deco
Art Nouveau
Baroque
beginning stage
childbearing stage
Chippendale
classical styles
Consumer Credit Protection Act
Consumer Leasing Act
contemporary
Duncan Phyfe
Early American
eclectic
Empire
family life cycle
furniture type
genuine wood
Greek Revival
Guides for the Household Furniture Industry
Hepplewhite
International style
launching stage
Louis XV or Rococo
Louis XVI or neoclassical
mass merchandiser
mid-years stage
mission style
modern styles
needs
parenting stage
period furniture
private brand retailers
provincial furniture
Queen Anne
reproductions
Restoration
Sheraton
solid wood
Spanish Baroque
specialty shops
traditional styles
transitional contemporary
unfinished furniture stores
Victorian period
wants
warehouse showrooms
William and Mary period

When selecting furnishings, a person must primarily consider personal taste. However, considering other factors will help a person make satisfactory choices. A piece of furnishing's quality, cost, size, style, needs, and maintenance requirements are important factors to consider.

Throughout history, furnishings have been designed to fulfill specific human needs. Furnishings and designs are influenced by culture and current trends. Culture is a combination of all the customs, ideas, and beliefs that a group of people have. It includes social habits, traditions, and values as well as arts and religion. Materials and methods of production available also affect these designs.

SELECTION OF FURNISHINGS

Space is a major consideration when selecting furnishings. Small areas limit the amount of furniture that can be comfortably included in a room. For this reason, the choices that must be made should have functional value as well as decorative appeal. Every piece of furniture in a room should have a specific use that fulfills a person's needs. Larger rooms have space for additional pieces and can include tables for displaying collections, sculptures, and other decorative pieces.

When a person is redecorating a room rather than furnishing it for the first time, different factors must be considered. Mixing new pieces with those already owned must be done carefully to create a harmonious environment. It is easy to be baffled by different types and styles of furniture. Selecting the right furniture is easier if a person knows the basic principles of design and has informative guidelines from which to work.

Several basic factors influence the selection of home furnishings. One important factor is the stage of the life cycle a family is in. This may determine other factors that should be considered including cost, size, and quality. Another factor that should be considered is the wants of the person or family. The quality of construction and maintenance requirements for furnishings also should be considered. Some people may have to consider the special needs of a person with physical impairments before selecting furnishings. These factors influence the selection of furnishings.

Wants and Needs

Wants are those things a person desires that make life more enjoyable. Wants include the individual preferences that make each person different. A couple or family who decides to buy furnishings may have to compromise on the final selection. People have different perceptions about which colors, styles, and sizes of furnishings are pleasing. A client's wants may not always be the best choice for the decor of a room. This is when an interior designer can help a person make good selections based on the elements and principles of design.

Needs are things that are necessary or essential. Everyone has basic needs such as food, clothing, and shelter. These needs must be satisfied. The need for new furnishings leads people to decide characteristics they want in their furnishings. Once needs and wants have been established, it is time to select the furnishings.

Needs of Families in Different Stages of the Life Cycle

Home furnishings selections tend to correspond to the changes in the life cycle. The ***family life cycle*** describes the stages of the life of a family from marriage to older adulthood. Even though each individual and family is unique, each goes through various stages of the life cycle, which influence its requirements and desires for furnishings. When fulfilling desires and needs, people must consider their budget, family size, and lifestyle.

Individuals and families pass through certain stages of the family life cycle. Once a family is formed, it does not always remain the same. Some changes occur with the family members while others come about in a series of expected events described in the life cycle. The family changes through various events such as birth, growth, marriage, death, or divorce. Some families share the same problems, but unique problems arise in every family.

Many people spend their young adult years as single adults or remain single throughout adulthood. These consumers often begin independent living with basic household furnishings and gradually acquire additional furnishings as their careers advance and they move into a larger living environment.

Many people spend their young adult years as single adults or remain single throughout adulthood. These consumers often begin independent living with basic household furnishings and gradually acquire additional furnishings as their careers advance and they move into a larger living environment.

The first stage of the family life cycle is referred to as the ***beginning stage***. This stage includes a married couple with no children. The husband and wife set up their new home and usually acquire basic household furnishings. This stage can be expensive. Both husband and wife may work and earn a large combined income which typically allows them to acquire furnishings at a faster rate. However, some couples may earn smaller incomes that may allow for the purchase of dual purpose furnishings such as a sofa bed.

When a couple has their first baby, they enter the ***childbearing stage***. This stage of the family life cycle brings added expenses and investments in baby clothing, equipment, and additional furnishings. This stage continues until the last child is born. Each child creates additional expenses for clothing, equipment, and furnishings.

The ***parenting stage*** describes a family with children between the ages of six and twenty years old. When children begin school, the family schedule becomes more hectic with school events and developing hobbies. The children have outgrown their beginning stage furnishings. This creates expenses for new furnishings, clothing, and recreational activities. The overall family needs also change. Financial resources are important considerations during this time since many families move to larger homes or expand their existing one to adjust to their growing family needs. A couple's beginning stage furnishings become old and worn. Trends and the family's tastes may change and create a desire for new furnishings.

When children leave their parents' home to work, study, or start families of their own, the ***launching stage*** begins. This stage covers the time when the oldest child leaves home until the last child leaves home. As children move out of the home, parents often give them furniture to furnish their apartments or first homes. Thus, the parents are often ready to purchase some new, better quality furniture. More money is generally available to purchase new furnishings as the children are now on their own.

The ***mid-years stage*** is the next stage of the life cycle when children are grown and living elsewhere and the family returns to one or two members. This stage lasts until the couple retires. Those who had been living in relatively large homes may no longer want or need the extra space. The children are no longer the center of attention and new concerns and interests develop as the couple plans to retire. Often retirement brings new interests in different styles of furnishings or in hobbies, such as collecting antiques.

The ***aging stage*** is the last stage of the life cycle which covers the time of retirement until the death of both spouses. Expenses may be restricted as people live on fixed incomes, making the expense and upkeep of large homes a burden. The primary concerns of most older people in relation to home furnishings include affordability, ease of upkeep, and comfort. For older adults, furniture that sits higher and has arms are important for comfort and ease in getting up and down. Lighter colors and additional lighting are also important. Few furnishings are purchased at this stage of the life cycle.

Each family will pass through similar stages of the life cycle and in each stage the family must make new adjustments and face new problems. Even though all families pass through the life cycle, no two families will pass through the stages in the same way. Some families may overlap stages, skip stages, or even backtrack through stages in the event of divorce or death. Regardless of the particular stage a family is in, it will definitely affect the needs and wants of home furnishings.

Furnishings to Accommodate Special Needs

Selecting environments and furnishings to accommodate the needs of persons with physical impairments is a growing aspect of the home furnishings industry. It requires careful planning and an acute awareness of individual needs. Planning begins with the physical size and traits of the individual. When planning a room or home, certain requirements should be kept in mind.

For people with walking impairments, remember the following:

- All door and hall widths should be at least thirty-six inches wide.
- There should be no stairs.
- There should be a knee clearance of twenty-nine inches under all tables and lavatories.
- Mirrors should be hung low to be accessible to someone in a wheelchair.
- Floors should be level.
- There should be adequate space to maneuver walkers and wheelchairs in every room. A standard wheelchair is twenty-five by forty-two inches.
- Ramps should be used instead of stairs.
- Light switches should be at thirty inch heights.
- Nonslip floor surfaces are necessary along with low pile or low level loop carpeting.

For those with impaired sight, remember the following:

- Avoid projecting walls, corners, or unusually shaped furnishings.
- Nonslip floor surfaces and level floors are essential.
- Avoid floor accessories that could cause a person to trip.
- Make sure riser heights and tread widths for stairs are uniform.
- Incorporate braille signs and audio alarms or warning signals that are beneficial.

For those with hearing impairments, remember the following:

- Install video warning signals in the form of lights. These are beneficial. Avoid placing furnishing or accessories in a position that might obstruct the person's view of the video equipment.
- Use telephone amplifier attachments if possible. Modern technology has made special computer phones available with keyboards and screens for the hearing impaired to send and receive messages.
- Amplified doorbells and/or light attachments are also helpful.

◆ **Essential Questions:** ◆
Selection of Furnishings

1. What factors should be considered when selecting furnishings?
2. How do the different stages of the family life cycle affect the selection of furnishings?
3. What are three examples of accommodations that should be made when selecting furnishings for individuals with special needs?

FURNITURE

The Egyptians were the first to record the use of furniture. Much of their furniture looks similar to pieces seen today. Their footstool looks very much like the present day campstool. Throughout history, furniture styles have changed continually. Terms relating to styles are sometimes confusing due to differences in interpretation. Style refers to the use of design characteristics. ***Furniture type*** refers to a particular set of characteristics that relate to the furniture's function. A bed is an example of a furniture type. Furniture styles basically fall into three general groups:

- ***Antiques*** include original furniture that is more than 100 years old.
- ***Traditional styles*** include the original design of historical origin. ***Classical styles*** refer to copies of historical styles. ***Provincial furniture*** is a simplified version of the traditional design.
- ***Modern styles*** include contemporary furniture.

In addition to the groups above, several common variations exist. Two of the most common variations are transitional contemporary and eclectic. ***Transitional contemporary*** is a style that combines more formal and elaborate classic styles with the straight lines of contemporary or modern styles. It is characterized by simplified ornamentation or decoration. The transitional look can be achieved through the styling of furniture using contemporary fabrics, colors, or accessories.

Eclectic is the most typical furniture style variation used today. Eclectic design refers to furniture pieces of different periods that are combined to achieve an interesting effect. During some periods, this assortment of styles might not have been acceptable. However, designers today see the eclectic style as an exciting way to furnish a room. In the eclectic variation, appropriate pieces can be selected from different periods to create an attractive and functional room arrangement.

Period Furniture

Many styles of furniture are sold today. Much of this furniture has been copied or adapted from traditional styles called period pieces. ***Period furniture*** refers to furniture styles that were popular in the past. In order to combine furniture of one or more styles tastefully, a person should recognize styles of certain periods and their characteristics. The following are the major periods and styles of furniture.

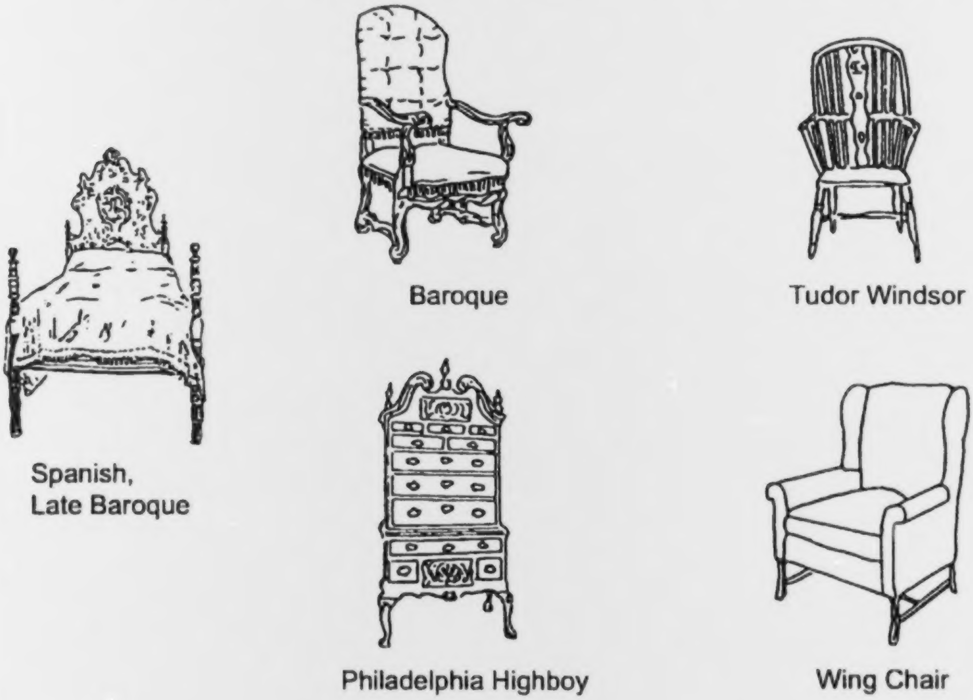
Seventeenth Century. The furniture styles of the seventeenth century include Baroque, Restoration, William and Mary, and Early American styles. Figure 8.1 illustrates this style.

- ***Baroque*** was an Italian outgrowth of late Renaissance. It consisted of exaggerated, emphasized fullness of size, scale, and proportion. The Italians used twisted turnings, broken and reversed curves, and inlays and appliques of materials such as marble, ivory, and bronze.
- ***Restoration*** was a period that emphasized comfort as well as increased richness of form and ornament. The wingback chair and round tables were introduced during this period.
- The ***William and Mary period*** is characteristically known as the "Age of Walnut." Flat stretchers and bun feet with spiral and trumpet legs were common. The highboy (a chest of four or five drawers supported by a table) was the most important piece of this era.
- ***Early American*** pieces include Windsor chairs, corner cupboards, and ladder-back chairs.

Eighteenth Century. Furniture styles of the eighteenth century include Louis XV or Rococo, Louis XVI or neoclassical, Chippendale, Hepplewhite, Sheraton, Queen Anne, and Duncan Phyfe. Figure 8.2 illustrates these styles.

- ***Louis XV or Rococo*** is characterized by small scale furniture. It was ornately decorated with motifs of ribbons, shells, rocks, and graceful lines. It is also known for its short cabriole legs.
- ***Louis XVI*** or ***neoclassical*** is characterized by symmetry, brilliant paint, and

Furniture Styles of the Seventeenth Century



Spanish, Late Baroque

Baroque

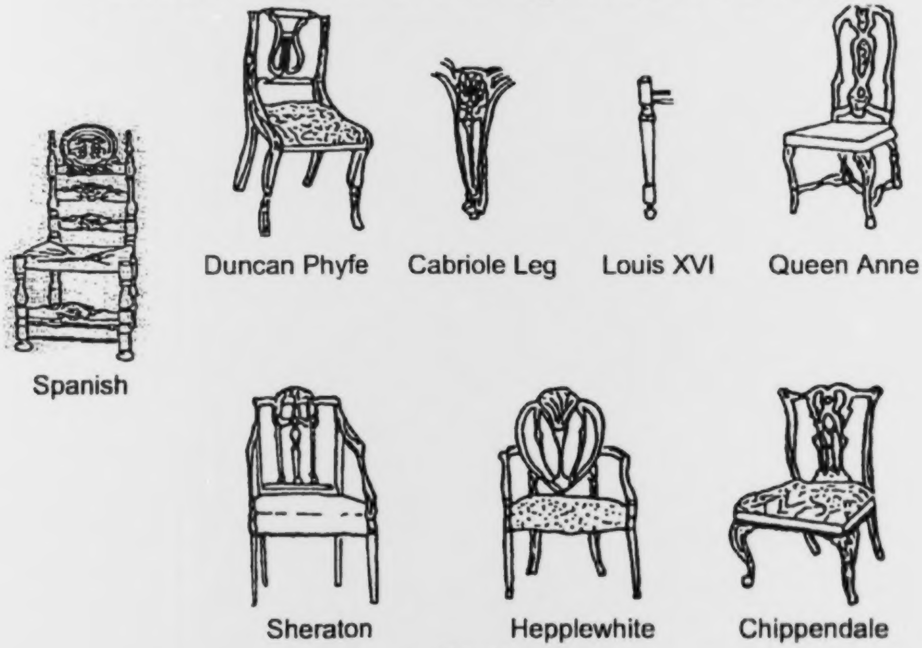
Tudor Windsor

Philadelphia Highboy

Wing Chair

Figure 8.1

Furniture Styles of the Eighteenth Century



Spanish

Duncan Phyfe

Cabriole Leg

Louis XVI

Queen Anne

Sheraton

Hepplewhite

Chippendale

Figure 8.2

marble. Light colored wood inlays were typical.

- Thomas ***Chippendale***, an English cabinetmaker in the 1700s, is known for his innovation of the square leg in furniture. The grandfather clock was developed during this period.
- George ***Hepplewhite***, an English cabinetmaker in the 1700s, is known for a variety of chair backs including the shield and heart.
- Thomas ***Sheraton***, an English cabinetmaker in the late 1700s, is known for his originality in chair design. They were lighter, had lower backs, and the legs were turned or square tapered. The arms came from the back in a sweep.
- The ***Queen Anne*** period is known for the development of the simple curved line. The cabriole was refined with ornamentation on its knee. The scalloped shell motif became popular. Furniture developed includes secretaries, chairs without stretchers, and overstuffed upholstered pieces.
- ***Duncan Phyfe*** was the most famous of Early American cabinetmakers. Almost all of his work was done in mahogany. Chair legs often curved out to the side. Tables were supported on lyre-shaped bases or finely carved pillars.
- ***Spanish Baroque*** was characterized by richly carved and gilt decorations. Chair backs were pierced with interlaced geometric patterns or floral motifs; arms were set at sharp angles and not connected with the back.

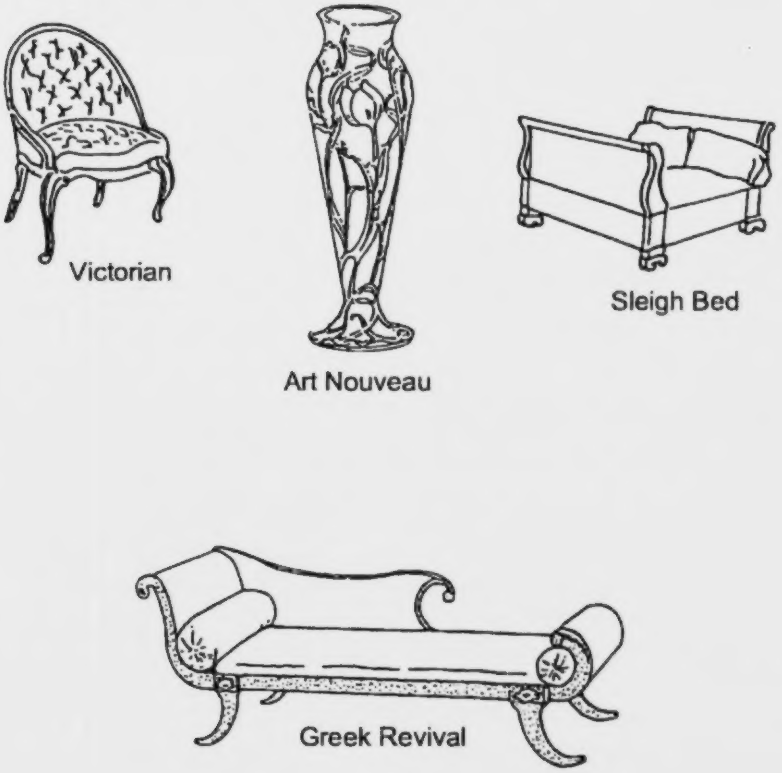
Nineteenth Century. Nineteenth century furniture styles include Empire, Victorian, Art Nouveau, and Greek Revival. See illustrations in Figure 8.3.

- ***Empire*** was the style of design and decoration instituted in France during the reign of Napoleon. The Empire bed or sleigh bed was popular at this time.
- The ***Victorian Period*** covers the English and American design trends during the reign of Queen Victoria in England (1837-1901). The style was elaborate. Carvings were elaborate and scale was exaggerated. Brass beds became popular during this time.
- ***Art Nouveau*** is French meaning "New Art." This was a late nineteenth century to early twentieth century European style of furniture based on patterns of natural forms such as branches, leaves, waves, and flames.
- ***Greek Revival*** was a renewal of interest in Greek designs stimulated by archaeological excavations at Pompeii and Herculaneum.

Twentieth Century. Figure 8.4 illustrates the twentieth century styles of Art Deco, International, Contemporary, and Reproductions and Adaptations.

- ***Art Deco*** was a style of ornamentation popular in the 1920s and 1930s that used geometric or stylized versions of plants, animals, or other natural forms.
- ***International style*** was developed by the German architect Walter Gropius who founded the Bauhaus school of design. This style eliminated the use of wood and turned to chrome-plated steel tubing and manufactured goods. The trend now is to use unfinished wood.
- ***Contemporary*** designs utilize architectural materials such as marble, wood, glass, stone, and plastics. The shape usually is the accent.
- ***Reproductions*** and ***adaptations*** are designs that are based on other periods often using combinations of designs. About one-fourth of all customers purchase contemporary designs. The rest choose designs that are reproductions or adaptations.
- ***Mission style*** first became popular during the early part of the twentieth century. It is also known as Arts and

Furniture Styles of the Nineteenth Century



Victorian

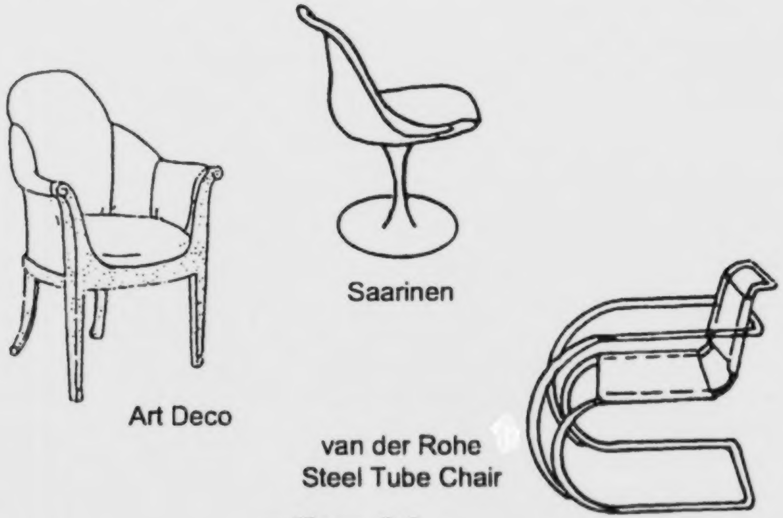
Art Nouveau

Sleigh Bed

Greek Revival

⇨ *Figure 8.3*

Furniture Styles of the Twentieth Century



Art Deco

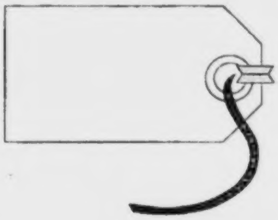
Saarinen

van der Rohe
Steel Tube Chair

⇨ *Figure 8.4*

Crafts design. It features simple, heavy oak frames with leather or fabric cushions.

Construction and Maintenance Requirements



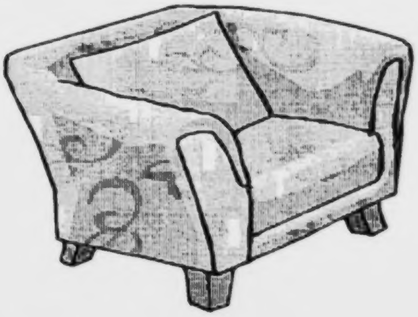
Construction and durability are important considerations when selecting home furnishings. The Federal Trade Commission (FTC) developed ***Guides for the Household Furniture Industry***. These rules prohibit furniture manufacturers and dealers from providing false or misleading information about their furniture. Manufacturer's tags and labels include information about materials and construction of their products. The rules require manufacturers to provide information regarding the types of outer coverings and stuffings used on upholstered furnishings.

Wood furniture descriptions also must follow strict guidelines. Furniture catalogs state what a piece is made of whether it is veneer or one type of wood. The FTC requires that specific terms used must conform to their determined definition. For example, ***solid wood*** means that all exposed wood is of solid wood through the entire thickness of the piece. ***Genuine wood*** can be veneered with the exposed parts being of the same wood.

Case goods should be smooth with no rough spots, protruding nails, or splinters. Consumers should feel the furniture, inspect drawer construction, and look carefully at table leaves and other furniture details. Stains should be even and construction should be solid. A person can tell if construction is solid if a dull thud is heard when the panel of a piece of furniture is tapped. If a hollow sound is heard, it is possible that the piece is constructed from thin panels of wood attached to wooden frames.

All working parts should work. Doors should open and shut easily, and they should fit properly and squarely into their frames. Hinges should not squeak and should be properly aligned. Drawers should roll smoothly and should not catch or slide without rollers. The drawers also should be free of surface flaws that might catch on clothes.

Upholstered furnishings should have zippers that work smoothly. The upholstered piece also should be lined underneath. Sitting down and standing up should not be awkward or difficult. Individual springs should not be felt through the cushioning materials.



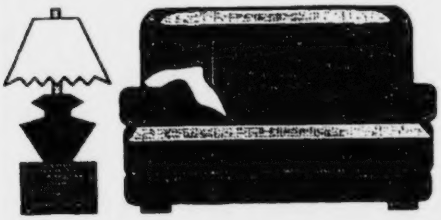
Customers are interested in selecting the right style of furnishings. There are no set rules for selecting furniture styles other than that they should blend in with the overall design and mood of the room. Carrying swatches of fabrics, paint chips, color samples, or pictures of furnishings already purchased is helpful to both designer and customer. This allows new items to be coordinated with other purchases. Individual pieces do not need to match, but they must blend with other pieces and colors in the room.

Furniture size is important for two reasons. First, it must fit into a prospective home or apartment by its actual dimensions. A piece of furniture that will not fit through a door or hall should not be purchased. Secondly, the pieces should be the appropriate scale for their use and location.

The seat of a chair or sofa should be about fifteen to eighteen inches above the ground or slightly lower than the back of a person's knee. If the seat is too high, a person's feet cannot touch the floor. If the seat is too low, standing and sitting is difficult. A sofa should be long enough for a person to stretch out comfortably if that is one of its purposes. For conversation, a longer sofa may not be suitable.

Furnishings should be in proportion to the overall room dimensions in which they will be placed. A king-sized bed may look small in a showroom, but could overpower a small bedroom. Queen beds are popular for small rooms and give more length and width than full beds. Enough room for circulation should be available after all furniture has been arranged in a room. Too many pieces of furniture in a room or pieces that are too large in a room detract from the overall look and use of space.

Maintenance of furnishings is another important aspect of furniture selection. Cleanability and maintenance requirements should be compatible with a person's lifestyle. Wood furniture requires regular special cleaning and waxing. Upholstered furnishings must be vacuumed and professionally cleaned occasionally. A working couple with small children should select upholstered furnishings that can be cleaned easily. They should select smooth case goods with protective finishes, rounded corners, and no sharp points. Plastic and metal furniture surfaces are easily cleaned and resistant to stains. The same couple without children could possibly select plush upholstery and fine wooden pieces with intricate carvings.



◆ Essential Questions: ◆
Furniture

1. Why is knowledge and understanding of period furniture important for an interior designer?
2. Why should consumers inspect furniture before they purchase?
3. Why is furniture size important?

COORDINATION OF FURNISHINGS

Furnishings are expensive. This makes the accumulation of furnishings a slow and gradual process. Whether furnishings are purchased new, used, borrowed, inherited, or rented, personal taste should be a primary consideration. Almost any style of furnishings can be combined successfully if the principles of design are followed. Eclectic designs are those which combine furniture pieces of different periods to achieve an interesting, personal effect. Harmony of scale, line, and color contribute more to the unity of a decorating scheme than the choice of specific furniture styles.

Furniture Harmony

Harmony occurs when a pleasing or congruent arrangement of parts results from the achievement of variety and unity. Unity is essential to successful design. Unity is characterized by repetition of color, texture, shape or other elements in the space. Variety brings dynamism and excitement to the design of the room. It can be differences in color, shapes, textures, or combinations of old and new furnishings. Variety and unity bring harmony to the space when the elements and principles of design are apparent in the overall design of the room. Harmony ties all the elements and principles together in a good design. It is the final goal of any arrangement.

Harmony is a oneness or unity of all the parts of a design. Each part should help fulfill the purpose of the design and add to its appearance. A beautiful object can destroy the harmony in a design if it does not belong with other parts. A fragile, etched crystal glass may be a beautiful piece of stemware, but it would destroy the unity in an informal display of heavy, Spanish pottery.

A logical and orderly plan helps in achieving unity. The design must have a center of interest that determines the overall character of the design. There must be sufficient emphasis on the center in order to make its role as center unmistakable. Repetition is also an integral part of a unified design.

Harmony demands that the sizes, shapes, colors, textures, and ideas used to create the arrangement or design be related. Unity is necessary to create an integrated whole. Too much unity can cause monotony. A certain amount of variety is needed to create interest. Too much variety can cause disorder and destroy the unity of the design. Harmony results from a tasteful blending of balance, rhythm, emphasis, and proportion to produce a unified but interesting whole.

Guidelines for Coordinating Furnishings

Regardless of how quickly furnishings are accumulated, certain guidelines should be followed for appropriate coordination. An important consideration may be to make a long-term design plan before purchasing any furnishings. Figure 8.5 lists a variety of guidelines to consider when coordinating furnishings.

◆ **Essential Questions:** ◆

Coordination of Furnishings

1. Why are unity and variety important to the overall harmony of a room?
2. What is the result of too much variety in the design?
3. What is the result of too much unity in the design?

ECONOMIC CONSIDERATIONS

Shopping for furniture is unique when compared to shopping for clothing or electronics. Name brands are more common with clothing and electronics than with furnishings. There are approximately 5,000 furniture manufacturers in the United States. There are brand names, but few compared to the numbers in other industries. Furnishings have little or no warranty coverage and the products vary widely in design, quality, and price.

The kinds of materials used, quality of construction, finishing process, and optional features such as pulls (handles), carvings, and other decorative details, all influence the price of furniture. Consumers should consider carefully the quality of furnishings before purchase. High quality furnishings are a good investment as they retain their appearance and performance for many, many years. It is also helpful for consumers to consult the interior designers associated with furniture stores for guidance on selecting quality furnishings that will outlast and outperform poor quality furnishings.

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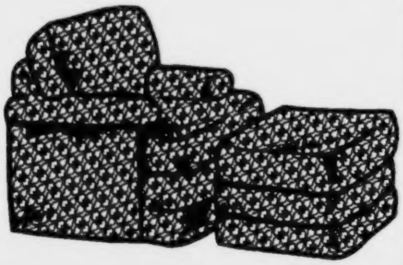
Guidelines for Coordinating Furnishings

- Select basic furniture pieces around which pleasing designs may be created.
- If purchasing gradually, select major furnishings that will be available over a period of time from a reputable dealer.
- Avoid crowding too many items into a small space.
- Simplicity is usually the best principle to apply in the coordination of items.
- Use knowledge of the elements and principles of design in home furnishings coordination.
- Accessories should repeat or emphasize the dominant line, texture, form, and color in a room or grouping.
- When hanging a group of pictures, make sure the balance, scale, and proportion of the individual pictures are harmonious together.
- Vertical lines help suggest height in a room whether found in doorways, windows, wallpapers, or furnishings.
- Fabrics of different textures that are dyed an identical color may not appear to be the same color. This is important to remember when attempting to blend colors in different textures.
- Textures combined in a design should be related or should contrast pleasantly.
- Contrasting colors can emphasize an item while related colors can hide it.
- If too many horizontal line pieces (tall cabinets or tall windows with draperies) are found in a room, horizontal lines can be added to break the monotony. Horizontal lines can be added by using a low table, sofa, or other long wall piece.
- Remember that unity + variety = harmony.
- Harmony in furniture coordination results from a tasteful blend of balance, rhythm, emphasis, and proportion to produce a unified but interesting whole.



⇨ ***Figure 8.5***

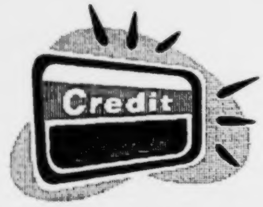
Purchasing Furnishings

Furnishings are expensive and purchasing them requires careful consideration. The method of payment is as important as the selection of furnishings in most cases. Not all home furnishings businesses work on a cash only basis. Many stores today offer multiple credit accounts and purchasing options that give the customer a choice.

Paying for purchases with cash is the least expensive method of payment. No finance charges are involved and the customer has greater opportunities to comparison shop and to take advantage of sales and discounts. Many stores now offer six or twelve month credit plans with no interest. Consumers should inquire about the different options available to them. However, some stores will add interest if payments are late.

Needs and desires for large furnishing purchases usually coincide with the developing stage of the life cycle. This is the stage when the family is growing and expenses are already high. It is often difficult for consumers to save the amount of money necessary to purchase certain items. For some, it is more convenient and practical to use credit providing the payment schedule will fit into their budget. Buying on credit allows a person to use goods and services while paying for them. Credit can cost money. The credit cost is added on to the amount of the purchase.

For consumers to use credit wisely, they should be aware of the different kinds of credit and their cost. The ***Consumer Credit Protection Act*** requires that the finance charge (interest rate) be stated in both dollar amount and as an annual percentage rate. Information on a contract must be read carefully. Even though interior design assistants may have little to do with the credit aspect of a business, it is important that they have some knowledge about the various types of credit and the overall business operations.



Furnishings items can be purchased in places other than retail stores. Garage sales and estate sales are also resources. Even when in good condition, furnishings and equipment have a comparatively poor resale value. The quality of used items varies greatly, which makes shopping for them a difficult task. Many bargains can be found. Depending on the items needed, shopping for used items is an option to consider when looking for furnishings.

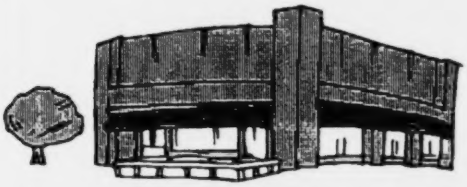
Furniture rental stores also sell used furnishings. The biggest problem with purchasing used furnishings is that there are no returns, exchanges, or services; the sale is final.

Buying Guidelines

Furniture is expensive. Most customers want to get the best quality possible for the price paid. Knowledge of furniture materials and construction is essential. Much of furniture construction is hidden, making it important to be informed and educated about the products sold.

Many consumers comparison shop in numerous stores before making their final selections. They look for a combination of merchandise, services, and prices to meet their wants and needs. They often check newspaper advertisements and telephone books and talk with friends who have bought similar items. There are various types of stores that sell home furnishings items including furniture stores, department stores, warehouse showrooms, mail-order houses, specialty stores, and unfinished furniture stores.

Furniture stores offer personal services such as interior design services, credit options, delivery, service guarantees, and return privileges including exchanges and refunds. Customers of a furniture store or department store can buy items on the showroom floor which are displayed in fully-designed room settings, or customers may order from catalogs for custom orders. These types of stores have special sales a few times a year, which offer worthwhile savings.



Warehouse showrooms carry large quantities of furnishings in stock which are instantly available. These furnishings are often displayed in room settings or lined up side by side in long rows. The overhead costs of warehouse showrooms are lower; therefore, they can sell the furniture below the manufacturer's suggested retail price. The furniture is often still in the manufacturer's shipping crate or box. After a customer pays for the merchandise, it can be loaded into the customer's own vehicle or the warehouse may deliver it for an additional charge. However, self-delivery is not encouraged because once the consumer leaves the store lot with the furniture, the store is no longer liable for any damages to the furniture.

Mail-order catalogs have grown rapidly in the last few years. Companies primarily use catalogs to reach potential customers. For the most part, they do not offer fine handcrafted furnishings, but they offer mass-produced items designed to appeal to a wide variety of buyers.

Speciality shops usually limit their merchandise to one specific type of furnishing. Examples include computer stores, appliance stores, and bedding stores. They often carry a large selection and the salespeople are knowledgeable about the merchandise.

Unfinished furniture stores usually have a limited stock of unfinished furniture that is partially or fully assembled. They cost less than finished products of similar merchandise. The store may offer to finish the pieces for customers as a service. Or, the customers can take the pieces as they are and finish them on their own.

Renting Furnishings

Renting furniture is another option for the consumer. This is a rapidly growing industry for many reasons. The selection of styles, fabrics, and finishes available is growing steadily. Rental terms are more convenient for some consumers. Terms allow a person to tailor a rental fee to meet budget allowances. A room setting can be changed almost instantly, if desired, for a slight fee.

Rental arrangements for furnishings can include a number of items including sofas, lamps, artwork, and plants. Rental prices are in line with the quality and amount of furnishings selected. The initial payment often includes a security deposit, a month's rental, and possibly a handling charge. There is usually a fee for delivery and pickup. Other advantages of furniture rental include the following:

- They allow a person to meet temporary furniture needs such as an extra bed, crib, or sleeper sofa at a reasonable price.
- Furnishings that fail to meet wearability standards can be replaced.
- Selections can be delivered and picked up quickly.
- Essential pieces can be filled in while waiting for a special furniture order to arrive.
- People may be allowed to rent furniture with the option to buy later.

It is important to remember that consumers leasing furniture in the United States are covered by the ***Consumer Leasing Act*** which is enforced by the FTC. It covers personal property leased by individuals for a time period of more than four months if the furnishings are used for personal or household use.

◆ *Essential Questions:* ◆
Economic Considerations

1. What are the advantages and disadvantages of purchasing furnishings on credit?

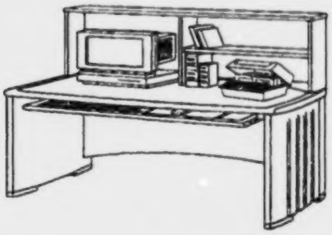
2. Why is knowledge of the materials and construction of furniture essential when buying furnishings?

TRENDS AND TECHNOLOGY

Furniture

As with all consumer products, furnishings for residential and nonresidential settings are affected by trends and technology. The furniture industry is no exception. Some current trends in the furniture industry include the following:

- Consumers continue to select furniture for informal living spaces, such as living rooms, great rooms, or family room/kitchen combinations.
- Homebuilders are seeing consumer trends for homes with family gathering areas, such as the family room/ kitchen combination. Thus, consumers are purchasing informal furniture pieces that work well in these settings.
- Traditional styles continue to remain popular as consumers see furniture purchases as a long-term investment and thus avoid short-lived trends.
- Consumers are attracted to functional, multi-purpose furniture, such as coffee tables with storage, computer desks with bookcases and file drawers. or entertainment centers with coordinated wall units. Many consumers are purchasing computer armoires that close when not in use.
- Another trend in furnishings has arisen as the result of new technology in home electronics. As the popularity of home theaters grows with the sales of large screen televisions, surround sound systems, and digital video disc players, consumers are interested in furnishings that function well in the home entertainment area.



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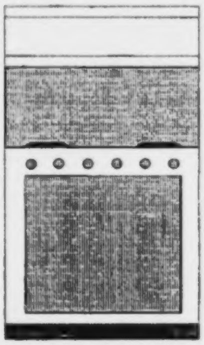
Appliances

As the number of companies in the major appliance manufacturing business decreases, the number of brands in a specific product category increases. Companies are moving to establish brands with full product lines. As a result, consumers will have more models and brands from which to choose.

Mass merchandisers and private brand retailers are those who buy appliances directly from the manufacturer and sell them directly to the consumer. A ***mass merchandiser*** buys and sells products bearing the manufacturer's name. ***Private brand retailers*** have special contracts with manufacturers to produce appliances bearing the retailer's name as opposed to the manufacturer's name.

Builders and developers may sell appliances directly to consumers as part of a new home. The consumer selects the brand name product they desire and the builder or developer purchases the appliance from the manufacturer or distributor. This method of appliance purchasing represents approximately one-fourth of the total annual manufacturer sales.



Kitchen appliance dealers also sell appliances directly to customers. Builders and developers may buy from kitchen dealers occasionally. The kitchen dealers often sell the complete kitchen including cabinets, flooring, countertops, lighting, wall coverings, and appliances at substantial savings. Professional design services are usually available from a kitchen appliance dealer.

The Association of Home Appliance Manufacturers (AHAM) has been collecting data on home appliances since 1972 basing all of its efficiency improvements and energy comparisons on statistics collected from that data. Data includes statistics on average annual electricity costs, average number of major home appliances per household, records of imports and exports, and records of retail outlet sales of major home appliances.

Appliances manufactured today have a clean and uncluttered design with metallic trim, round edges instead of square, and stylized graphics. These give appliances a subtle sophistication. Built-in and flush installations are the trend. High fashion appliances are desired in open kitchens or kitchens in which the living area and kitchen are combined in one room. It is important for appliances to visually blend with their surroundings. Today, appliances are considered accessories. Figure 8.6 shows an appliance timeline with additional information on forecasts for the 21st century.

The variety of appliances available today are a direct result from the diversification of lifestyles and needs of consumers. Smaller capacity appliances are now available with the convenient features of the traditional, larger scale appliances. Different installation options also are popular including under the cabinet microwave ovens, can openers, and other appliances. These trends are in response to consumer demand for certain appliances for which they have limited space but desire the convenience. Space saver appliances also are wanted by one and two-person households who require smaller appliances and the convenience of the appliances.

Home Electronics

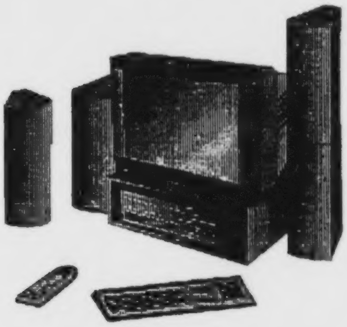
High technology has brought about numerous changes in the area of communications. World news can be transmitted instantly by satellite and can be sent to home computers through electronic mail. Televisions can be used in conjunction with computers. Videocassette recorders (VCRs), digital video disc players, satellite dishes, and high-powered home computers have added a

Appliance Time Line

1859	One hundred American families owned gas ranges.
1908	The electric range and electric dishwasher were introduced.
1914	The electric refrigerator was introduced.
1937	The automatic clothes washer was introduced.
1952	The automatic ice maker was developed.
1954	Colored appliances were introduced.
1955	The microwave oven was introduced.
1957	Wash and wear cycles were introduced on washers and dryers.
1958	Automatic ice makers were introduced for freezers and refrigerators.
1963	Self-cleaning ovens were developed.
1967	The countertop microwave oven was introduced.
1969	Trash compactors for the home were introduced.
1985	Computer-measured and controlled temperatures and automatic defrosting became available in refrigerators and freezers.
Late 1990s	• Electronically-controlled temperature maintenance for refrigerators • Dish drawer dishwashers: two totally independent drawers for customized dishwashing • Electronic touch ceramic cooktops • Ovens that cook with light (Advantium™ technology, Flashbake™, etc.)
21st century forecast	• Voice-activated ovens with technology that recognizes and responds to voice commands, understands 250 regional accents, and can learn new languages. Consumers tell the oven what they are preparing and it will determine the proper cooking time and temperature and offer cooking tips. • A Web-enabled refrigerator with a wireless pad. It has a bar code scanner which allows users to build a shopping list, take a food inventory, and alert them to foods they may be allergic to. • A microwave oven with a bar code scanner will enable consumers to wave a package of food in front of the scanner and the microwave automatically sets the cooking time and power. Its wand scanner will also allow users to take a food inventory anywhere in the kitchen.

⇨ ***Figure 8.6***

new dimension to the word accessory. Televisions, computers, telephones, VCRs, and digital video disc players are considered accessories.



There are many choices for consumers regarding telephone equipment and services. Coordinating a telephone with the decor of a room is popular. Electronic cordless phones operate like two-way radios, making it convenient to continue working inside or outside without interrupting a conversation.

Home computers are used to keep financial records, research information, control a home security system, and play computer games for both adults and children, The display or monitor is the screen on which the information typed into the computer is displayed. Some computers have a display monitor built-in while others do not A video monitor connects directly to a computer giving a better quality picture and displaying the entire width of a typewritten page.

Video cassette recorders (VCRs) and digital video discs (DVDs) are examples of innovative ideas in home entertainment. There are two basic kinds of VCRs. The home VCR is available in basic and deluxe models and is kept near a television. It is used for playing commercial videotapes (i.e., movies and documentaries) and videotapes recorded with a camcorder (i.e., family events). The camcorder is a combination video camera and VCR. Camcorders are lightweight and portable which allows individuals to take instant movies with both color and sound. Programmable timers enable a person to set the machine to turn on at different times and record programs. More sophisticated VCRs can be programmed up to two weeks ahead of time to record television programs.

Digital video discs (DVDs) are compact discs that hold movies rather than music. Movies are digitally coded onto a DVD and are more durable than their predecessor, the videotape. However, the most appealing factor of DVDs over videotapes to consumers is the superior video and audio (sound) quality of the DVD over the videotape. DVDs are played on digital video disc players that are connected to the television system.

Another new technological advancement is the DVD-ROM drive in newer personal computer (PC) models. The DVD-ROM is a new version of the CD-ROM drive and enables consumers to play DVDs on their personal computer. Because of this new technology, many manufacturers are now referring to DVDs as "digital versatile disc."

◆ *Essential Questions:* ◆
Trends and Technology

1. What are two new trends in the furniture industry?
2. What drives the development of new appliances for consumers?
3. What trends in family life of the 21^{st} century are likely to promote additional home entertainment technologies?

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Chapter Highlights

- Small areas limit the amount of furniture that can be comfortably included in a room. For this reason, the choices that must be made should have functional value as well as decorative appeal. Every piece of furniture in a room should have a specific use that fulfills a person's needs.

- Selecting environments and furnishings to accommodate the needs of persons with physical impairments is a growing aspect of the home furnishings industry. It requires careful planning and an acute awareness of individual needs.

- Throughout history, furniture styles have changed continually. Terms relating to styles are sometimes confusing due to differences in interpretation. Style refers to the use of design characteristics. Furniture type refers to a particular set of characteristics that relate to the furniture's function.

- Eclectic is the most typical furniture style variation used today. Eclectic design refers to furniture pieces of different periods that are combined to achieve an interesting effect.

- Many consumers comparison shop in numerous stores before making their final selections. They look for a combination of merchandise, services, and prices to meet their wants and needs.

- The Federal Trade Commission (FTC) developed *Guides for the Household Furniture Industry*. These rules prohibit furniture manufacturers and dealers from providing false or misleading information about their furniture.

- Furnishings should be in proportion to the overall room dimensions in which they will be placed.

- Regardless of how quickly furnishings are accumulated, certain guidelines should be followed for appropriate coordination. An important consideration may be to make a long-term design plan before purchasing any furnishings.

- Buying on credit allows a person to use goods and services while paying for them. Credit can cost money. The credit cost is added on to the amount of the purchase.

- Furniture rental is a rapidly growing industry for college students and individuals with occasional needs. It can meet temporary furniture needs, such as an extra bed, crib, or sleeper sofa at a reasonable price.

Chapter 9

Selection and Coordination of Accessories

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

1B Exhibit how the elements of design can create various effects.

1F Analyze societal and cultural influences on the design of residential and nonresidential environments and their furnishings.

3B Determine appropriate use of accessories, lighting, materials, and space in various environments.

3C Describe trends in materials, accessories, lighting, and space utilization.

3E Evaluate cost considerations in accessorizing for various settings.

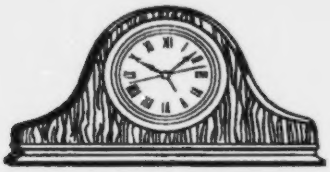
Chapter Vocabulary

abstract styles
accent lighting
artificial light
bone china
borosilicate glass
bridge lamps
centerpiece
ceramics
classical or traditional styles
cornice lighting
cove lighting
decorative accessories
desk lamps
diffused light
direct light
direction
distribution
drawings
earthenware
flatware
floor lamp
fluorescent light
functional accessories
halogen lighting
hanging lamp
high-intensity lamp
holloware
impressionist style
incandescent lighting
indirect light
lead glass
lime glass
luminous ceiling panels
mixed light
muslin
natural light
objective style
open stock
percale sheets
place settings
porcelain
portable lamps
primary lighting
recessed lighting
runners
satin sheets
secondary lighting
semivitreous ware
sets
silver plate
stainless steel
sterling silver
surrealism
swing-arm lamp
table lamp
table linens
tensile strength
terry
thread count
track lighting
valance lighting
vase-type lamps
wall lamps

Accessories are the interesting, personal pieces that give character and excitement to a room. Accessories represent individual tastes more than any other item of furnishings. They should be selected with great care and should be suitable to the personality and character of a room or setting. Accessories include items such as clocks, porcelain and ceramic pieces, bowls, trays, bookends, music boxes, pictures, wall hangings, lamps, plants, pillows, collections, and any other articles that enrich the room and the furnishings. A design assistant must be able to harmonize style, texture, proportion, balance, and scale of accessories when creating a display or store arrangement or when helping with a client's home or office.

TYPES OF ACCESSORIES

Accessories complete the total look of a room or a store arrangement. The two basic types of accessories are functional and decorative. ***Functional accessories*** are accessories that serve a purpose such as mirrors, clocks, lamps, and fireplace tools. The function of an item should be considered first, then the decorative aspect should be considered. ***Decorative accessories*** have no other purpose except decoration. These include sculptures, crafts, plants, and artwork. These items should be placed to enhance or be enhanced by their surroundings.



Some accessories may be both decorative and functional. Regardless of the accessory's function, it should be used to complement a design rather than dominate it.

The principles, elements, and goals of design should be considered in the selection of accessories. Chosen items should repeat or emphasize the dominant line, texture, form, and color in a room or grouping. Each accessory should be in proper proportion to the various items in the room or grouping and also should be appropriate and add to the unity of the design.

Functional accessories should be added first as they are required. Decorative accessories should be added last. After functional accessories have been added, there is usually less need for decorative accessories since functional accessories can also be decorative.

The selection of accessories involves the use of the principles of design and color. When selecting accessories to go with different styles of furniture, it is important to remember to select something with the same design characteristics of line, shape, color, and texture. It is not necessary to use accessory items that represent the same period of furnishings. If the lines of the furniture style are refined and curved, an accessory should be chosen that is small in scale and refined in appearance. If the furniture shapes are heavy and bulky with straight lines, an accessory should be chosen that looks heavy and large in scale.

◆ Essential Questions: ◆
Types of Accessories

1. What is the purpose of accessories?
2. Why are functional accessories selected first?

SMALL ACCESSORIES

Small accessories give a display, store arrangement, or home warmth or a personal feeling. They add color, texture, and pattern to make the arrangement unique. Small accessories include such items as decorative plates, clocks, glass paperweights, small photographs, and other similar items.

Some small accessories are significant and permanent while others are trivial and temporary. In a home, the small accessories reflect individual tastes and interests more than anything else. Most of the small accessories in homes are decorative objects collected over the years. Without the small accessories, a room looks cold and unfinished. Store arrangements and displays also need the finishing decorative touch created with small accessories. Small accessories are vital ingredients in an arrangement and can add a rich spark of personality.

There are no set rules to follow when choosing accessories. The choice should depend upon the space, other accessories present, and the style of the display or arrangement. Since the total success or failure of an arrangement can depend upon the accessories used, a person must plan and arrange small accessories carefully. The small accessories that fit comfortably into the display or arrangement should be chosen.

Attention to the scale of the accessories and their general proportions, colors, styles, and textures is important so that the small accessories will harmonize with the rest of the display or arrangement. It is important to remember that each item should add comfort or beauty to the arrangement. Accessories should not be used simply because they are available. Accessories should be distinctive enough in design to add interest with their beauty and color. Small accessories used should be similar in color and texture to the atmosphere of the arrangement. Unless small accessories add to the decorating scheme, there is no reason to use them.

Small accessories should not be displayed alone because they will probably not be in scale with the other furnishings. Small accessories should be emphasized by placing unlike objects against each other for contrast or by grouping several similar pieces together. Only the accessories with good structural and decorative designs should be selected. Then, these can be grouped in a pleasing arrangement.

The use of too many accessories in a display or room arrangement is a common mistake. An arrangement could have good accessories, but because of clutter, the accessories are not emphasized. Clutter gives a look of confusion instead of warmth. A few well-placed accessories are more pleasing than many small accessories around the room.

Collections of seashells, glass objects, marble eggs, and other small items are decorative table accessories. A circular glass or mirrored top makes an excellent backdrop for a collection of miniature items in a display or store arrangement. A mirror on the wall behind small accessories on a table reflects the objects and adds to the beauty of the display.

In store displays, accessories should create the personal touch of a home. They provide clients with ideas of how an accessory or a piece of furniture would look in their homes. People need an area of beauty and quality in a relaxed atmosphere. Accessories should be used sparingly and chosen with care for use in homes, offices, and store displays.

Accessories make homeowners feel comfortable in a space. Today's fast-paced working environment can be harsh. People want the relaxed feeling of a haven at home.

Displaying Accessories for Retail Sale

Accessories should be functional and attractive. They usually should be arranged in a store as they might be used in a home situation. This makes a store seem less cluttered and actually calls more attention to the individual items for sale. Each item should be selected with care and placed with other items around the store. Accessories also should be placed in windows so they can be seen and purchased. For example, a copper coffee server could be arranged on a copper tray with six blue demitasse (small) cups and placed on a coffee table in front of a natural-colored linen sofa. Figure 9.1 describes procedures for displaying accessories in groups of two or more.

Individuals working in retail must be aware of shoplifting problems with small accessories. Therefore, it is advisable to group small things together or display them in closed glass cabinets.

◆ Essential Questions: ◆
Small Accessories

1. How are small accessories used in a decorating scheme?
2. What is the result of too many small accessories in a room?

WALL ACCESSORIES

Many types of accessories can be attached to walls. Wall accessories consist of pictures, plaques, tapestries, wall hangings, wall sculptures, curio shelves, bookshelves, mirrors, sconces (bracket attached to the wall for holding candles), wall clocks, framed collections or coins, medals, and other such items. Wall accessories can be used alone or several wall accessories can be combined as one wall grouping. Functional wall accessories include clocks, mirrors, cabinets, and shelves. Decorative wall accessories include pictures, sconces, and mirrors. Selection and placement of various wall accessories must be designed around existing architectural features, such as windows, doors, and fireplaces. If these architectural features are overlooked, the entire balance, proportion, and unity of the wall can be ruined. The wall color and texture and the furniture and other design features of a room must be completed before accessories are added. Accessories should not be chosen as an afterthought, but should be incorporated into the total design which affects color and texture of the floor, ceiling, and walls.

All wall accessories should be arranged in relation to a piece of furniture, such as a sofa, chest of drawers, bookcase, or table. One exception to this includes the placement of a wall accessory in a narrow hallway. The wall grouping should be placed close enough to the piece of furniture so that it seems like a part of the grouping. Over a sofa, consider people seated on the sofa and be careful not to place the accessory where people can bump their heads against it if they lean back.

The following guidelines are helpful when hanging pictures for a display, home, or store arrangement:

- Choose a location where accessories will be appreciated and easily seen.
- Select accessories of the appropriate size and shape for the location.
- Relate accessories to the furniture and the wall area or space.
- Allow no wires or hooks to show.
- Hang accessories so that they lie flat against the wall.

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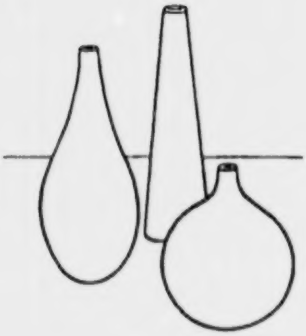
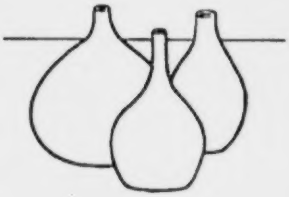
Displaying Accessories

- Two identical objects selected for display do not have to be formally balanced. Place one a little higher than the other on a wooden base, or place the pair close together and balance them with another object.
- When objects are not alike, it is usually wise to select them in different heights or place them on bases to raise them to different heights--but not in stair-step fashion. Stair-step arrangements are often poor in proportion and monotonous unless carefully planned.



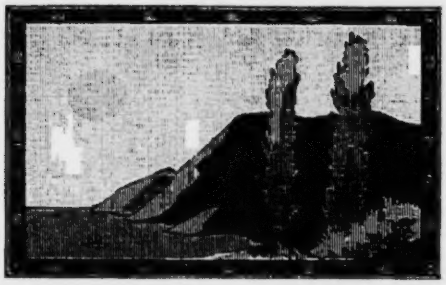
Good Relationship of Heights



Poor Relationship of Heights

- Combine delicate objects with others that are delicate, and combine heavy objects with other heavy objects.
- Combine decorative items with plain items rather than using, for example, three decorative designs in the same grouping. However, three plain accessories might be combined if there is some variation in hue, value, intensity, scale, or texture.
- Place simple arrangements on furniture so it is still the center of interest.
- Furniture and accessories can be combined in either formal or informal arrangements.
- When planning, selecting, and placing accessories for display, keep arrangements simple and place them where people are likely to stop and look at them. The display area should be uncluttered so customers can see the items available.
- Judge all selections and placements in terms of the principles and elements of design.

⇨ ***Figure 9.1***



Traditional Style

Artwork

Pictures used as wall hangings can be paintings (oil, acrylic, or tempera), watercolors, etchings, rubbings, lithographs, prints, pen and ink sketches, graphic prints, or needlework pieces. Pictures should add interest and represent good use of the principles of design. Pictures can be used to create emphasis in an arrangement either by representing the elements used or by contrasting with the color scheme and decorative style of the room. Figure 9.2 includes art terms.

Pictures are probably the most frequently used wall accessories because they are available in all shapes, sizes, colors, and themes. They can be used alone as a focal point or in groupings with other pictures or related objects. Busy pictures are best on relatively plain walls. Plain pictures work well on busy walls.

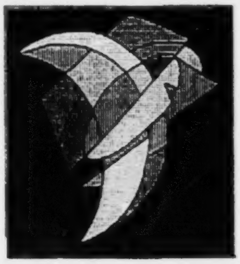
Frames should be selected to coincide with the texture, color, and scale of a picture. Smaller pictures require narrow frames; larger pictures require larger frames. The frame color should harmonize with the picture as well as with other colors and tones used in a room.

Mats, frames, and glass should be used to show pictures to their best advantage. They should be selected to emphasize the picture and harmonize with the other furnishings in a room. Glass should be used only on pictures that cannot be protected by a durable coating such as varnish. Nonglare glass should be used anywhere light causes glare on glass. When using nonglare glass, the picture should be mounted so that it touches the glass. This method is sometimes not recommended for use with valuable artwork because it can stick to the glass. A reputable professional should frame valuable artwork.

Mats can be more effective than frames. This is especially true if the picture is relatively small. A mat can widen the size of a picture and is effective in providing a transition from a patterned background to the picture. Some pictures and posters need no frame if the subject matter and size supply sufficient identity.

Large, boldly designed pictures can stand by themselves as centers of interest. Personal taste and cost determines whether a person uses originals or reproductions. The following are some art styles from which a person can select.

- The ***classical or traditional styles*** are the oldest forms of painting often applied to works of artists such as Leonardo da Vinci and Rembrandt.
- The ***impressionist style*** is a form of painting that is concerned with effects of light which retain the objective nature of a setting without copying the scene.
- ***Abstract styles*** include paintings that radically exaggerate traditional forms.



Abstract Style

ART TERMS

- Oil paintings are paintings done with oil paint on a canvas or other specially prepared board. Colors are mixed in oil and sometimes varnished. People began painting with oil paint in the fifteenth century.
- Watercolors are paintings done with colors that are mixed with water and applied to paper.
- ***Drawings*** are pictures done with pen, pencil, felt brush, charcoal, or any other drawing instrument. Drawings are relatively inexpensive.
- Prints refer to mass-produced color or black and white copies of an artist's original work. Limited editions refer to limited copies signed by the artist. Prints enable a larger number of people to own work by a good artist at a reasonable price.

Figure 9.2

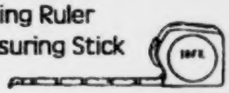
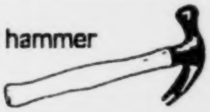
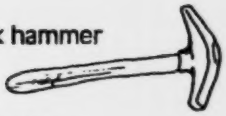
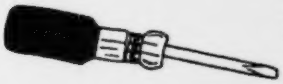
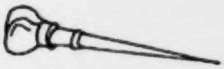
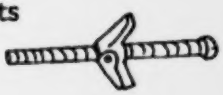
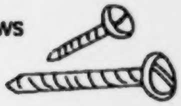
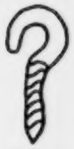
- ***Surrealism*** is the painting of fantasy or an interpretation of a dream world.
- The ***objective style*** is the painting of subject matter handled with realism.

Pictures should be hung where they can be seen easily. A general guideline is to hang pictures about eye level when they are not hung in relation to a piece of furniture. Vertical pictures fit best in narrow wall spaces. Large horizontal pictures require a large wall space. Wall art may be used in place of furniture in traffic areas. Therefore, it may be hung low on the wall.

A horizontal picture is not necessarily the only solution for a wall accessory over a horizontal piece of furniture. Another alternative would be to place a vertical shape off-center or to use two companion vertical shapes. A vertical shape with small items on one or both sides creates a pleasing visual wall accessory. A painting placed slightly off-center next to a small wood shelf containing a thick candle might be more pleasing than just the picture in the center of the space. In this case, the lower part of the shelf support could be just above the bottom of the painting, with the top of the candle extending about two-thirds of the height of the picture. Pictures that are hung around the room or in a hallway do not all need to be even at the top or at the bottom. Visual opinion should be used to determine what looks right in relation to the heights of the other pictures and in relation to the furniture groupings.

When hanging a group of pictures, the balance, scale, and proportion of the individual pictures should be harmonious together. The use of pictures with colors and textures that might clash with each other should be avoided. Different sizes of pictures can be used for visual interest. One method used to achieve visual interest in a grouping is to select a medium-sized picture and then place pictures of varying sizes around it. The tools needed for hanging wall accessories are shown in Figure 9.3.

Tools for Hanging Wall Accessories

Steel Tape Folding Ruler Measuring Stick 	Used to measure distances, circumferences, widths, and lengths for placement of decorative units.
Claw hammer 	Hammer with a claw-like head used for removing nails or for driving nails into walls, ceilings, or baseboards.
Tack hammer 	A hammer used for tacking fabric to a frame or dowel or for driving nails into walls.
Screwdriver 	Tool used to turn screws into walls for hanging paintings, mirrors, and lamps.
Awl 	Small pointed tool used to make starter holes for screws and bolts.
Bolts 	Threaded metal pins used for heavy frames, mirrors, and lamps. Toggle bolts are used on sheet rock, plaster, and hollow walls because once inserted, they flare open for additional support.
Screws 	Threaded cylindrical piece of metal used for fastening things together. In softwood, an awl is used to make starter holes in the wood. In hardwood, a hole should be drilled and then the screw may be inserted.
Nails	Pointed piece of metal with a flat head used in hardwood or softwood for hanging lightweight or medium-weight items.
Hooks 	Curved piece of metal used to hold something. Small and medium-sized hooks can be used in wood or plaster walls for hanging decorative items. Large hooks can be used for hanging heavy lamps or planters.

⇨ ***Figure 9.3***

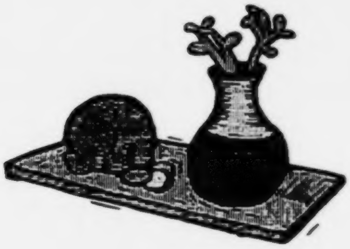
Mirrors

Mirrors can be attractive wall accessories. They are functional as well as decorative. When properly used, they can increase the apparent space of a room, display, or store arrangement. Mirrors can be used to open a room and create an expansion of space.

Hanging a mirror opposite a blank wall takes away from the decorative effect achieved by the mirror. A mirror should be placed where it will reflect a view of paintings, a wall hanging, or another wall accessory. When planning a display or store arrangement or accessorizing a client's home or office, the three-dimensional quality that mirrors provide should be considered. For example, when a mirror is hung above a table or piece of furniture that holds flowers or other decorative accessories, the reflection adds to the beauty of the display.

Other Wall Accessories

Shelves are often used as wall accessories. They can be made of wood, glass, metal, plastic, or fiberboard. Fiberboard is made with fibers, such as wood, compressed into stiff sheets of material similar to wood. Fiberboard is then cut and handled as wood.



Shelves can be decorative as well as functional. Items such as display books, magazines, records, tapes, and collections of small items, such as figurines, decorative eggs, seashells, and other small accessories can be placed on shelves.

For added interest, shelves may be used separately or combined with pictures, plants, and other wall accessories. The selection and placement of shelves depends upon the relation to the idea expressed in the display or wall arrangement.

Wall clocks are functional as well as decorative wall accessories. Clocks that rest on shelves or hang on brackets are considered wall clocks. Clocks can be used alone or they can be included in an arrangement of wall accessories. When using a clock in a display or in a store arrangement, the cord of an electric clock and the outlet should be hidden. The cord or outlet takes away from the beauty of the display. In a store arrangement, the interior designer or design assistant should place electric clocks so their cords will not be safety hazards in traffic lanes. Clocks that strike or have chimes should be set at different times or placed far enough apart in the store so they will not interfere with each other. The choice of a clock depends upon its relationship to the other items in the display or wall arrangement. The clock should harmonize with the total decorating theme.

◆ Essential Questions: ◆
Wall Accessories

1. What do pictures add to a room?
2. What is the general guideline for hanging pictures?

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LIGHTING

Lighting is an important accessory that affects the beauty and efficiency of a home, office, or store. Well-planned lighting enhances the mood and decorative scheme of interior environments. Understanding how different forms and arrangements of light affect surroundings is important to effectively utilize light sources. Natural and artificial lighting should be considered when planning any design.

Types of Lighting

Natural light is provided by the sun. Sunlight makes colors seem sharper and brighter and gives objects warm, flattering tones. The number, size, and arrangement of windows determine the amount of natural light entering a room. It is also affected by the type of window treatments used and the placement of the rooms.

Strong sunlight may produce extreme shadows and glares. Rooms that receive large amounts of sunlight should not be decorated with too many smooth or shiny surfaces because the eyestrain and glare create an uneasy atmosphere.

Artificial light is controllable and predictable. It may come from one of two sources, either incandescent or fluorescent lighting. These sources are available in a variety of bulbs and fixtures and can be used to produce light for different uses.

Incandescent lighting is produced when electricity is passed into a vacuum bulb. The electricity passes through a fine filament that becomes so hot that it glows. Changing the wattage, shape, surface treatment, and size can vary the light's intensity.

Wattage in bulbs generally ranges from 6 watts to 150 watts. Larger bulbs are available where brighter light is needed. A three-way bulb contains two filaments that can be operated at the same time or independently.

Bulbs have various surface treatments. Clear bulbs shine at full strength but produce glares that make them useful only if they are covered. A bulb with a frosted finish disperses light more evenly and decreases glare.

Fluorescent light is produced in a glass tube. Electricity is released through a mercury vapor making invisible ultraviolet rays. The fluorescent chemical coating on the inside of the glass tube turns the rays into white, visible light. A fluorescent light can disperse light over a large area and cause less glare than an incandescent light. Fluorescent lighting requires less energy to operate and lasts longer than incandescent lights. Fluorescent light now is available in many colors.

Halogen lighting is a type of incandescent light. Halogen lamps, or bulbs, have a filament that is surrounded by halogen gas. When the halogen gas reacts with the tungsten, a metallic element, a bright light is produced. These bulbs are now available to fit any incandescent light socket. The halogen lamps burn three times longer than regular bulbs and the light is ten percent brighter.

When comparing the two, incandescent lights are more flattering to skin tones. Incandescent lights use more electricity, are more expensive to operate, and produce more heat than fluorescent lights. Most fluorescent light is considered cold and unflattering. Fluorescent lighting is available in warm white and warm white deluxe lights that produce warmer, more flattering light.

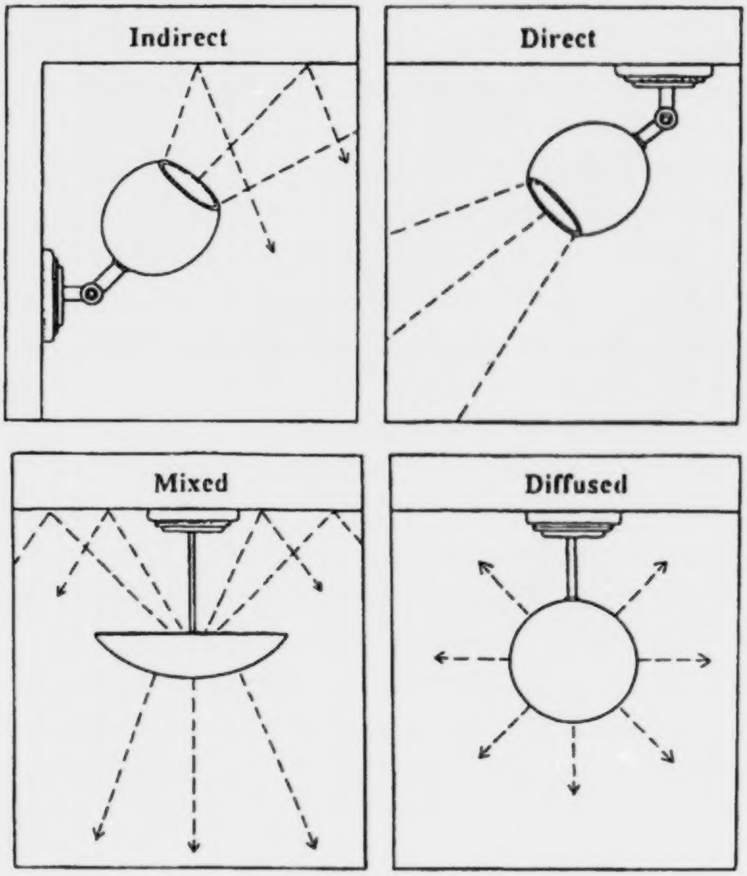
Lighting Distribution

The four basic types of artificial lighting disbursement are direct, indirect, mixed, and diffused. ***Indirect light*** is directed to a ceiling or wall and is reflected from that surface. ***Direct light*** shines directly on an object or area. With ***mixed light***, some light shines directly down on a surface and other light is reflected off a surface. Mixed light is a combination of direct and indirect lighting. ***Diffused light*** is dispersed evenly in all directions. Types of light disbursement are illustrated in the following diagrams.

The major purpose of good lighting is to allow a person to see better without suffering eyestrain. The second purpose is to make a room more beautiful. The best lighting for a store or window arrangement is a combination of the four methods illustrated in Figure 9.4.

When choosing lighting for a display arrangement or a home, a person should consider the mood desired and the comfort of vision desired. In most store arrangements, mood and effect are the most important considerations. Lighting should be selected to emphasize color or texture of furnishings or accessories. To achieve maximum results, it is important to control the intensity, distribution, and direction of light.

Intensity is the brightness of the light. Dark objects and dark color schemes need more intense light than do white or pastel-colored objects and lighter color schemes. ***Distribution*** is the placement of light. The correct placement of light in an arrangement depends upon the size of the area. A large area needs more light equally distributed than a small area.



⇨*Figure 9.4*

Direction is the angle at which light is projected. Good direction of light can eliminate shadows and glare. Light directed in various ways can create the feeling of intimacy or space and can change the arrangement's atmosphere. When planning the direction of light in a display, a person should be aware of reflecting surfaces that can bounce the light back and disturb the arrangement.

A variety of methods can be used to light a showroom arrangement. Several types of lighting may be available for use such as lighting behind a cove, cornice, or valance; track lights; floodlights; and furniture lighting. If lighting is not used properly, the most expensively and tastefully decorated display, store arrangement, or room is ineffective.

Using Artificial Lighting

Light is needed for a person to be able to see. The types of lighting used in interior settings may convey warmth, coldness, or serenity. Lighting can change or create an entire mood of an interior environment.

Merchandise must be seen in order to be sold. There are three phases of lighting to consider for store illumination. ***Primary lighting*** refers to the basic store illumination. Primary lighting is inadequate for emphasis of specialized merchandise. ***Secondary lighting*** should be added for this purpose. Secondary lighting includes spotlights, floodlights, furniture lights, and lights for counters and other cabinets. Atmosphere lighting is critical to displays in the store. It concentrates more light on an area than either of the other two. The illumination for featured displays should be twice as bright as the primary or secondary lighting. Incandescent spotlights and floodlights are used most often because they concentrate light on a given spot or place.

Lighting is of primary importance for displays. Proper lighting can make merchandise more attractive. It can create a pleasant atmosphere throughout a store. The best lighting for a display is a combination of direct, indirect, and mixed lighting. The desired mood and comfort of vision should be considered when choosing lighting for a display arrangement. In most store arrangements, mood and effect are the most important considerations. Lighting should be selected to emphasize color or texture of furnishings or other accessories in the display. Intensity, distribution, and direction of light must be controlled to achieve maximum results. The following are guidelines for using lighting:

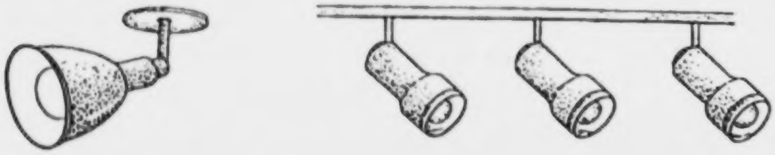
- Dark objects and dark color schemes require more intense light than white or pastel-colored objects and light color schemes.
- A large area needs more light equally distributed than a small area.
- Reflective surfaces can cause light to bounce and disturb an arrangement.

A variety of methods can be used to light a showroom or window arrangement as shown in Figure 9.5. These methods are often used in homes and office settings to create special effects as well. Available lighting may include cove, recessed, luminous ceiling panels, cornice and valance, track, and accent lighting.

Cove lighting is lighting placed behind a ledge that distributes light up and over the ceiling and upper wall. These coves are placed along one or more walls to direct light toward the ceiling to give indirect background lighting for a room or display. Cove lighting emphasizes irregularities in a ceiling; therefore, smooth ceilings should be used with this type of lighting.

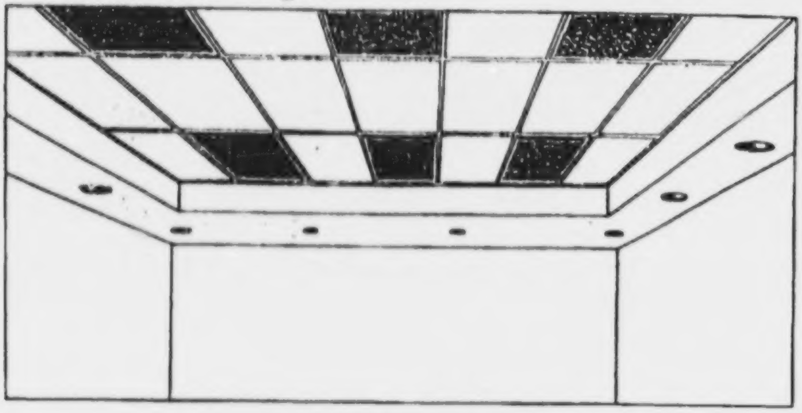
Recessed lighting includes round or square fixtures set into the ceiling that can provide diffused or concentrated light for certain areas. The fixtures are covered with

Artificial Lighting



Spot Light

Track Lights



Recessed and Panel Lights

⇨ *Figure 9.5*

glass or plastic. Recessed lights create special effects. ***Luminous ceiling panels*** are used in various commercial spaces to provide good general lighting. Bathrooms, kitchens, and special areas of businesses use this type of lighting.

Valance and cornice lighting are similar. ***Valance lighting*** is light placed behind a valance parallel to a wall. The light is shielded by the board and is directed upward and downward. ***Cornice lighting*** is lighting placed behind a cornice. The cornice shields the light from the ceiling and directs it downward. In both types of lighting, the lights are set behind a decorative board mounted at the top of a drapery as a top treatment. They both provide indirect lighting. These types of lighting are effective if the windows are the focal points of a room.

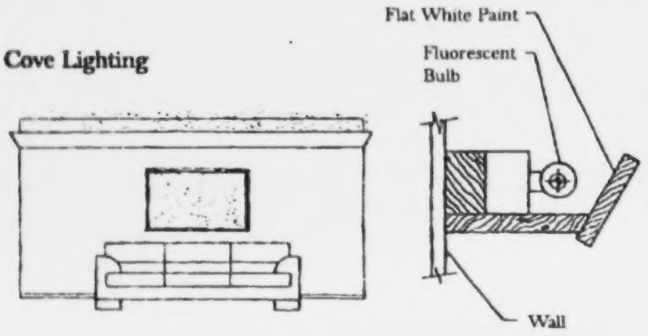
Accent lighting is often needed in a display and there are several types from which to choose. ***Track lighting*** consists of a light track with several swivel lights on it. It can be installed on a wall or ceiling allowing the lights to be focused in any direction depending on where accent is needed.

A group of track lights can be used not only for accent lighting, but also for general and local lighting. Portable canister spotlights and floodlights are frequently used for window displays. These lights can be powerful and provide sufficient night illumination for a store window.

Lamps

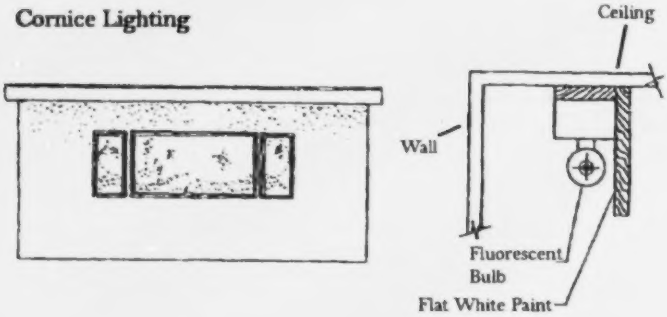
Most accessories are chosen mainly because of their aesthetic beauty, but a lamp must be evaluated for its beauty and use.

Artificial Lighting



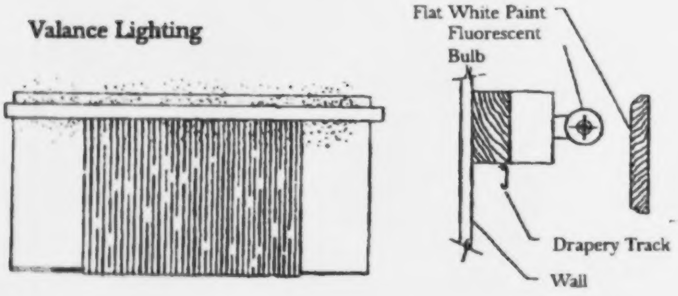
Cove Lighting

Flat White Paint
Fluorescent Bulb
Wall



Cornice Lighting

Ceiling
Wall
Fluorescent Bulb
Flat White Paint



Valance Lighting

Flat White Paint
Fluorescent Bulb
Drapery Track
Wall

⇨ *Figure 9.5, cont'd.*

Lamps should make seeing comfortable and should harmonize with the furnishings, color schemes, other lamps, and accessories in the room, display, or store arrangement. The design of a lamp should be related to the style and decoration of the room arrangement. The scale of the lamp should be suited to the furniture on or over which it is placed. The amount of light that the lamp gives off should serve a specific purpose.

Portable lamps are available in a variety of sizes, shapes, materials, and designs. Portable lamps include table lamps, floor lamps, wall lamps, and desk lamps. Some of the portable lamps are described in Figure 9.6.

A ***hanging lamp*** is a lamp that can be placed where light is needed by use of a chain. ***Vase-type lamps*** are the most common. They are available in various heights and styles to be used on tables, desks, and chests. ***Wall lamps*** supplement fixed lighting and are mounted on the wall. A ***swing-arm lamp*** allows light to be placed in a good position for studying, reading, or desk work. ***Desk lamps*** provide good light for intensive and prolonged studying and desk work. ***Bridge lamps*** bring light directly over a person by a stationary extended arm. A ***table lamp*** conserves space because of its attached table. A ***high-intensity lamp*** provides concentrated high-level light for sewing, crafts, fine detail work, and desk work. A ***floor lamp*** is a lamp that can be placed on the floor.

For best lighting, a lamp should be tall enough so that the light is reflected over a broad area for reading or working. It should not be so high that the shade lets the light shine into a person's eyes. An adjustable lamp usually has a greater variety of uses. A wall-hung light leaves table or desk surfaces free for books or papers, but sometimes it limits the changes which can be made in furniture arrangements. In a store setting, most table and floor model lamps are placed as parts of furniture groupings, and the wall-hung varieties are grouped on special display panels provided for this purpose.

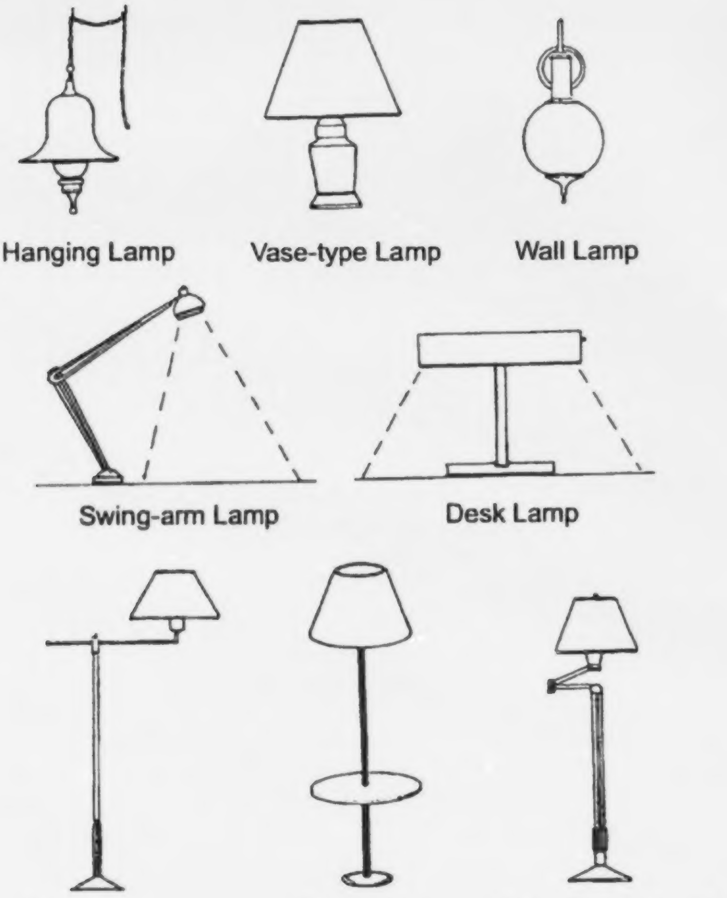
The use of tinted bulbs in lamps provides decorative effects. Bulbs are available in pink, red, aqua, and yellow. A pink bulb picks up the reds and oranges in a decorative scheme. An aqua bulb accentuates the blues, a yellow bulb brings out the yellows and beiges, and the red bulb gives a very rosy glow to the color scheme. The red bulb must be used with care as it can be too overpowering for the color scheme in a display or room arrangement.

When planning a display, a person should consider that colored floodlight bulbs are available for indoor use. The tints of pink and blue-white create nice effects on planters, flowers, paintings, art objects, and other items. Floodlight bulbs in strong colors, such as blue, green, and red, are best if used for holiday and party displays.

A lamp in a home or store display should be placed where it does not interfere with traffic. The electric cords of lamps can be particularly dangerous in displays and store arrangements.

Plastic wrappings should be removed from lamp shades before they are used. The plastic wrappings create glare, can warp the frame, and wrinkle the shade fabric. Some plastic wrappings are fire hazards. It is important to keep all light sources operating efficiently. Burned out or blackened bulbs and tubes should be replaced promptly. Electric wires are never placed under rugs where traffic might cause wear on the insulation.

Types of Lamps



Hanging Lamp
Vase-type Lamp
Wall Lamp
Swing-arm Lamp
Desk Lamp
Bridge Lamp
Table Lamp
High-intensity Lamp

⇨ ***Figure 9.6***

Long extension cords are dangerous as well an unattractive.

A design assistant may be assigned the task of cleaning the lamps in displays or store arrangements. Wood and metal lamp bases should be cleaned with a soft cloth. Glass, pottery, marble, chrome, and onyx lamp bases can be washed with a damp, soapy cloth and dried with a soft, clean cloth. Lamp shades can be cleaned with a vacuum cleaner that has a soft brush attachment. Parchment shades may be cleaned with a dry cloth.

Guidelines for selecting lamps include the following:

- What is the purpose of the lamp?
- Will the lamp be used for general illumination or for specific illumination to emphasize an accessory, such as a painting or an object of art?
- What type of lamp would be most appropriate for the specific use? If used in a study area, a suitable desk lamp should be chosen to provide excellent lighting for intensive and prolonged desk work.

- Is the lamp harmonious with the furnishings, color schemes, and other accessories?

Lamp shades affect the direction of light and the intensity of light emitted from a lamp. Lamp shades should be in proportion with the shape and size of the lamp on which they are used. Other factors that influence the types of shades used are the types of shades on other lamps and the lighting needs. Translucent shades are made of materials such as parchment, shantung, taffeta, organdy, and occasionally textured or patterned fabrics. Fluted paper lamp shades are treated to be heat resistant and are more common in informal areas.

Heavy plasticized paper that resembles translucent parchment is used for lamp shades. It can be used alone or covered with fabric. Translucent shades allow some light to pass through the shade. The end result is more general lighting than opaque shades. Translucent shades are beneficial for close work because they are capable of giving off good, soft light. Opaque shades confine the light to a small area. Opaque shades provide local lighting for reading. Shades for study lamps can be less translucent or opaque to reflect light directly on the activity. Opaque or translucent shades are also used on hanging and decorative lamps. Shades for outdoor use should be washable.

The height of the lamp and shade are important considerations. For reading and other similar tasks, the bottom edge of the lamp shade should be at eye level to the person seated. When measuring from the floor to the bottom of the shade, 38 to 42 inches is a good distance. The height of the table the lamp will be placed on should be considered when choosing a lamp. Figure 9.7 shows the parts of a lamp.

Parts of a Lamp

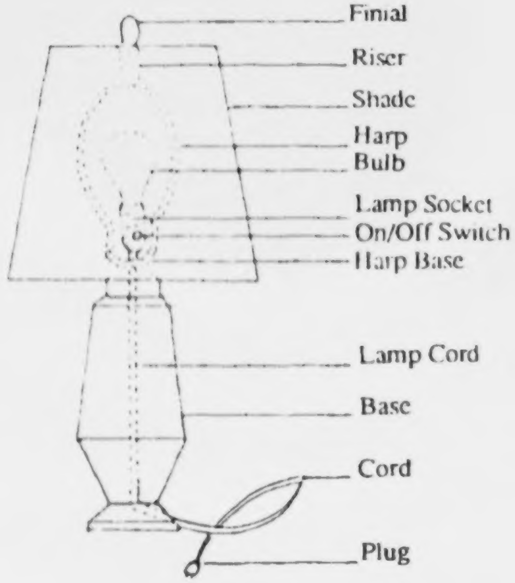


Figure 9.7

◆ Essential Questions: ◆
Lighting

1. How do natural light and artificial light differ in the effect they have on interior settings?
2. What are the four types of lighting disbursement?
3. What is the major purpose of lighting in interior environments?
4. What are the most important considerations when planning lighting for store arrangements?
5. What factors should be considered when selecting lamps?

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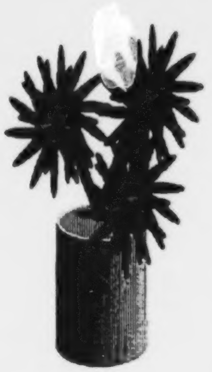
PLANTS AND FLOWERS

Plants have become increasingly popular for decorating. They are used to add color and effect. They can add boldness to form or reinforce the color scheme used in an arrangement. Properly treated, a plant is as much an object of art as a painting or a sculpture. The wide variety of plants and containers available offer many interesting combinations. The choice of plants and the manner in which they are displayed can make them a major decorating feature. Plants can be used to create an antique flavor, an air of elegance, or a homey atmosphere.

Plants may be hung from the ceiling in baskets or placed on shelves, walls, floors, or other surfaces. Walls of windows in apartments or businesses invite the use of plants. In a similar way, store windows can become showcases for plants. When choosing houseplants to accessorize a decorating scheme, individuals should consider the color, style, and form of the container. The type of plant also should be considered. When the scale of plants and pictures in a room are similar, they work harmoniously to achieve unity in the decorating scheme.

Plants complement the lines of modern architecture in addition to adding color and style. Against the simple, uncluttered lines of modern furniture, plants can introduce contrasting forms that add visual excitement. Living plants, as well as sculptures and paintings, can soften and increase the appeal of geometrically designed interiors.

Any number of plants can be used in a decorative scheme. The mass effect of a handsome grouping has great appeal for many people. When arranging a large group of plants, the height, shape, scale, and color of each plant and container are important considerations. The decorating scheme should be built around the largest plant. Placing light correctly on plants increases their effectiveness as accessories.



Adding a suitable large plant to a furniture arrangement can give a unifying look. The plant should be placed where it does not interfere with the traffic flow, but where it is easily seen and improves the decorating scheme. Live plants need space and light to thrive. The physical needs of a plant should be considered before deciding whether it is appropriate for a particular place in an arrangement. Some rooms are not made for large, healthy plants.

If a permanent (artificial) plant is needed, a visit to a nursery or greenhouse is important before a plant is selected. The texture, bark, leaf, and differences between new and old foliage of the live plant should be studied. This helps a person judge the quality of an artificial plant. The artificial plant should be designed and constructed to imitate the natural features of the living plant. Original designs with abstract leaves and flowers that do not copy any real plant also can be effective in a display or arrangement.

Dried floral arrangements also can be used effectively in room decoration. As with permanent plants, dried arrangements have no physical needs of water and light to be considered when placing them in the display. The arrangement should be focused on the character of the display. A bare branch cut from a tree or bush in the winter can add beauty to a display or store arrangement. A bare branch decorated with ribbons, Easter eggs, Christmas bulbs, or other such materials, can add interest to a display with a holiday theme. The branch should be placed in water and the heat of the store will bring out the soft, fresh green color.

Placement

Plants and flowers can be used in every room. Plants are used very often as accessories to add color and decorative effects in a room. Green foliage such as laurel, rhododendron leaves, or pine placed in an arrangement gives a realistic effect to artificial flowers. Vases for fresh green foliage without flowers also are effective in many types of arrangements.

Large plants are often used in corners to fill up space and take the place of a piece of furniture. Using a variety of plant heights, scale, shapes, and colorations can create balance. It is important to remember to always begin with the largest plant and build around it.

When a plant is well lighted, an arrangement of almost any size gains importance and may take on sculptural forms. Plants can be hung from the ceiling in baskets, used on curio shelves and tables, or placed in cabinets or planters. Containers are important and should be selected based on the decorative overtones of the room.

Flowers introduce color and life to any decorative scheme. Fresh flowers are expensive. Artificial flowers made of silk and other fabrics are an excellent alternative provided that they are made well. Good artificial flowers allow a person to have blooms all year.

Some artificial flowers are beautifully made of silk and other fabrics. Some plastic flowers are very poorly made. If flowers look unnatural, they may take away from the beauty of the arrangement.

Centerpieces

A ***centerpiece*** is an arrangement that serves as the focal point or center of interest in a table setting. Table appointments and table linens today are available in many colors. These linens can make tables look attractively decorated when set. A well-designed centerpiece can add an individual accent, express originality, or carry out a theme in an arrangement. It can express an event or a season.

A centerpiece must be in harmony with the dinnerware, glassware, holloware, flatware, and table linens already on the table. The centerpiece must be suited to the style of the meal, such as formal or informal. Colors and textures of centerpieces must blend with other table appointments. The colors of flowers used as centerpieces should match, harmonize, or contrast with the colors of other table appointments. Flower color should be a part of the overall color scheme of a table setting.

The size of a centerpiece should be in scale with the table. A huge arrangement of flowers, which would look great on a banquet table, would be completely out of scale to a small dining room table. The shape of the table often affects the shape of a centerpiece. A round centerpiece is more suited to a round or square table than a centerpiece that is very long and narrow. The oblong centerpiece would probably look more pleasing on an oval or rectangular table.

A general rule for table centerpieces is to keep them low enough for seated guests to see over or thin enough to see through. Although guests will not be seated at a table on display, this guideline should be followed to show centerpieces that look realistic and appealing. Centerpieces on buffets or serving tables can be any height that looks pleasing. Height is not limited because guests are not seated at the buffet table, and the table is often against a wall.

Centerpieces can be centered on a table or they can be placed off-center. When arranging place settings at both the sides and the ends of a dining table, place the centerpiece in the center. The centerpiece can then be viewed from all sides and look attractive from every angle.

A design assistant may have opportunities to create centerpieces for a display or may help select centerpieces from those stored from one season to the next. Arranging centerpieces can be challenging. This allows the design assistant to be creative and to express her or his own ideas. A wide variety of materials are available for making centerpieces. Centerpiece ideas are found in magazines, floral shops, displays, banquet decorations, and natural objects.

◆ Essential Questions: ◆
Plants and Flowers

1. How do plants and flowers add to the decorating scheme of a room?
2. What factors should be considered when selecting a centerpiece?

TABLE APPOINTMENTS

A design assistant may work with customers and actually sell various forms of tableware. An assistant may be asked to select dishes, flatware, glassware, table linens, and accessories from the variety of merchandise in the store which could be arranged attractively together on a table. In this case, the assistant must become familiar with the merchandise patterns an employer has available and be able to combine them harmoniously. The elements and principles of design are important in this aspect of home furnishings.

The trend in family meals and entertaining is toward a more casual, informal, and creative attitude. In keeping with this trend, most china departments display a wide selection of tableware in a variety of materials and a wide range of prices. Design assistants should learn the types, qualities, patterns, and prices of dinnerware, glassware, flatware, and holloware sold at their job site to help clients select tableware and to arrange effective displays. Another duty of a design assistant may be to carefully dust the dinnerware, wash the shelves, and clean the flatware.

Dinnerware

Most china departments carry a variety of dinnerware. ***Ceramics***, products made from a clay base and fired in a kiln, form the main class of dinnerware. Among the more common types of dinnerware are porcelain, bone china, earthenware, and semivitreous ware.

- ***Porcelain*** is the finest china, which is translucent (lets light shine through).
- ***Bone china*** is fine china made with white clay and bone ash, which is strong and highly translucent.
- ***Earthenware*** is made of baked clay which is opaque (not transparent) and more porous than porcelain.

- ***Semivitreous ware*** are semiporous clays, such as stoneware and pottery, which may go from the oven to the table.

Dinnerware also can be made of glass, plastic, wood, or metal. Plastic dinnerware has become more widely accepted. Plastics have been improved to overcome many earlier limitations. Most plastic dinnerware can be washed in dishwashers, put in the freezer, used in the microwave, and is available in a wide variety of patterns and colors.

Since each of these types of dinnerware is available in many designs and colors, a person can set many different tables with style. Regardless of the type or style chosen, dinnerware is usually sold in the following three ways:

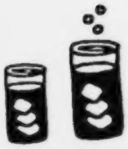
- ***Open stock*** means that pieces are sold individually.
- ***Sets*** include four, six, eight, or twelve place settings that may be sold with a variety of serving pieces.
- ***Place settings*** are four or five pieces sold together with the serving pieces sold separately.

Glassware

An attractive table contributes to the enjoyment of food and pleasant conversation in the home. It also contributes to beautiful displays and increased sales in the store. Glassware is very important for creating an attractive table. Many different kinds of glass are made by varying the raw materials and the processing methods used. Most glassware can be classified in one of the following categories:

- ***Lead glass*** is expensive and lustrous and has a bell-like tone when tapped. It is used for fine crystal.
- ***Lime glass*** is durable and inexpensive. It is used for everyday glassware.
- ***Borosilicate glass*** is resistant to heat and cracking. It is used to make cooking utensils.

Different methods of shaping and decorating glassware increase the variety of types on the market. Glassware is shaped by blowing, molding, or pressing. After a glass has been shaped, additional processes can be used to add decoration. Color, chemicals, or bubbles can be added to the molten glass. The surface of the glass can be cut, etched, frosted, or painted.



Glassware selected for a display should complement the other table appointments. It can be casual or elegant depending upon the style, type, and quality of dinnerware and flatware with which it must harmonize.

Flatware

Knives, forks, spoons, and special serving utensils are called ***flatware***. Flatware can be made of sterling silver, silver plate, or stainless steel. These three types of flatware vary in cost, quality, and care requirements.

Sterling silver is flatware made of 925 parts pure silver in every 1000 parts of finished metal. It is the most expensive silver and generally the most prized. Because silver tarnishes, it requires cleaning and polishing.

Silver plate is flatware coated or plated with silver. The finished product is made of copper or nickel silver (an alloy of nickel) and zinc. It is immersed in a solution of silver bars and silver cyanide. Silver plate flatware resembles sterling silver in appearance, but costs less. The quality of silver plate flatware varies. Good quality silver plate lasts for years with proper care. The plating on poor quality silver plate begins to wear off quickly, making the flatware unattractive. Silver plate also tarnishes and must be polished.

Stainless steel is flatware made of solid alloy containing at least 11 1/2 percent chromium. It requires less care than silver, does not tarnish, and resists stains. It is available in a wide variety of price ranges and patterns, and it generally costs less than silver.

Most flatware–regardless of the type–can be bought by the piece; in individual place settings; or in sets of four, six, eight, or twelve place settings. When buying flatware, the consumer should consider the utensils' pattern, quality, weight, balance, and ease of handling.

Quality and pattern are essential considerations in choosing flatware for a display. So many patterns are on the market today that it becomes difficult to choose among them. A selected pattern and quality should harmonize with other table appointments in the display.

Holloware

Bowls, trays, creamers, coffee and tea sets, pitchers, and other dishes used to serve food and beverages are called ***holloware***. Holloware also includes decorative pieces, such as candlesticks and vases. Holloware may be sold to match dinnerware or pieces can be sold unmatched. Unmatched holloware is often preferred because it adds beauty and variety to table appointments. An advantage to having an unmatched collection of holloware is that it can be used with more than one set of china.

Unmatched holloware can be made of various materials. Metal holloware is made of sterling silver, silver plate, stainless steel, pewter, or aluminum. Metal pieces do not have to match each other exactly, but they should complement one another and blend with dinnerware and flatware. Sterling silver and silver plate pieces require the same cleaning and polishing as flatware of the same materials. Pewter (an alloy of tin with antimony lead, brass, or copper) is generally used in informal table settings.

Holloware can be made of glass. It should harmonize with other glassware on the table. Wood is often used for trays and bowls for salad, fruit, cheese, and bread. Wood holloware may be carved or plainly styled. Holloware made of pottery can add a unique accent to a table.

Many types and patterns of dinnerware, glassware, flatware, and holloware are available to suit different moods and personalities. Consumers should consider carefully the different types on the market and make selections to suit family needs and standards.

Selections for displays also should be chosen carefully. When selecting appointments for a display, the design assistant should try to see how the entire table would look before making a decision. Then, the selected combinations should be put together in one place setting. If they look appealing together, the display can be finished. If not, one or more of the patterns should be changed until a pleasing combination is found.

Arranging Table Appointments

Some table appointments follow strict traditions while others have more creativity in combining unusual colors, textures, and shapes. The principles of design should be considered regardless of the selections. The selling power of a display depends upon how attractively the merchandise is shown and how much it appeals to buyers. Ways to apply the principles of design to table arrangements include the following:

Proportion/Scale

- Keep the scale of the china, glassware, and flatware consistent.
- Keep the height of the centerpiece low enough for people seated at the table to see over it.
- Use a long narrow strip of fabric along the center of the table to create the illusion of a longer table.

Balance

- For a formally balanced arrangement, place the centerpiece in the center of the table with identical place settings on either side or at the ends of the table.
- For an informally balanced arrangement for a buffet or tea table, place the centerpiece closer to one end with the coffee or tea service at the other end. The flatware and serving dishes should be arranged in between.

Emphasis

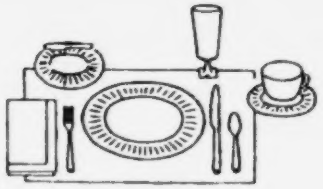
- Emphasize formality by selecting such appointments as a linen tablecloth, a service plate, porcelain dinnerware, crystal, and sterling silver or silver plate flatware with a formal design.
- Emphasize informality by choosing such appointments as a coarse linen, cotton, straw, or plastic table covering, earthenware, ironstone, or pottery dinnerware, heavy glassware, and silver plate or stainless steel flatware with an informal design.
- Emphasize color with colored place mats that harmonize with the color of the dishes and the centerpiece.
- Emphasize the centerpiece by using unusual materials, such as a wooden base, hand-shaped metal, or plastic, arranged in interesting shapes, lines, and textures.

Rhythm

- Arrange the flatware in an interesting repeating pattern for a buffet or tea table.
- Plan a pleasing flow of eye movement from the tablecloth or mat to the china, to the flatware, and to the centerpiece.
- Plan a gradation of values from dark mats to lighter values in the china. Still lighter values should be used in the centerpiece.

Unity + Variety = Harmony

- Plan a theme, making it formal or informal, according to the occasion.
- Select decorative designs of the same general character, but no so much alike that they become monotonous.
- Keep colors harmonious, but varied.



Some rules for table settings are listed in Figure 9.8.

A large part of any china department's business is sales connected with bridal selections. Many china departments primarily serve the bridal customer. In some stores, each bride's selections may be displayed. A display card is usually included in the arrangement. The card will include the name of the prospective bride and groom and the names of dinnerware, glassware, and flatware patterns.

◆ ***Essential Questions:*** ◆
Table Appointments

1. Why is knowledge of table appointments important for the design assistant?
2. What are three examples of how the principles of design are applied to table arrangements?

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RULES FOR TABLE SETTINGS

1. Allow at least twenty-four inches of table width for each person.
2. Place all flatware and dinnerware in a straight line about one inch from the edge of the table.
3. Use only the flatware, dishes, and glassware necessary for the menu.
4. Never use more than three of one item, such as forks or glasses, even at a formal table.
5. Arrange flatware in order of its use, working toward the plate from each side.
6. Place flatware pieces close enough to each other and to the plate to give a feeling of unity.
7. Place knives and spoons at the right of the plate and forks at the left.
8. Place the cutting edge of the knife facing the plate.
9. Place the water glass at the tip of the knife and place other glasses slightly below and to the right of the waterglass.
10. Place the cup and saucer to the right of the spoon.
11. Place the napkin to the left of the forks with the open edges toward the plate and the open ends at the bottom.
12. Place the salad plate to the left of the forks.

⇨ ***Figure 9.8***

LINENS

The word linens is commonly used as a broad term to refer to covers, cloths, or fabrics used in various areas of a home or business whether they are made of linen fabric or not. Table linens, bath linens, and bed linens are discussed in this chapter.

Table Linens

Most table coverings in the past were made of linen. Because linen was practically the only fabric used for tablecloths and napkins, the term table linens was used to identify all table covers. Today the term ***table linens*** refers to any table covering, including place mats and napkins, regardless of the fiber content or material used. Many types of table coverings made from a wide variety of materials are available.

Table coverings provide a setting for displaying dinnerware, glassware, flatware, and holloware. The type of covering chosen can affect the mood of a table setting, contribute to the color scheme, and add interest to a table display. Table linens commonly used to create interesting settings are tablecloths, runners, place mats, and napkins.

Tablecloths come in a wide variety of fabrics, sizes, colors, and patterns. They are made of materials that may include fabrics of flax, cotton, silk, manufactured fibers, and paper.

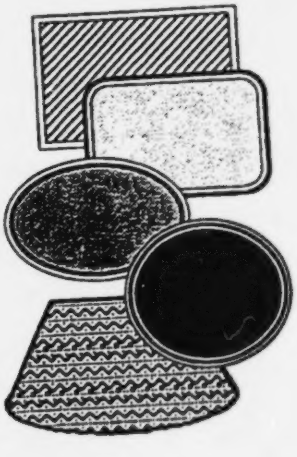
Linen can be white or colored. It can be undecorated, have an applied decoration, or have decorations woven into the design. Damask is a lustrous linen fabric with a patterned weave. The fineness and natural sheen of damask make it appropriate for elegant, formal table settings. A white or ivory damask cloth would be an appropriate background for a display of fine china, sterling silver, and crystal glassware. Other formal tablecloths include laces or delicately embroidered fabrics.

Cotton, manufactured fibers, and blends of manufactured fibers and other fabrics are widely used for tablecloths. These fabrics come in such a wide variety of colors, patterns, and textures that they can produce many interesting displays ranging from formal to casual. A finely woven tablecloth of a manufactured blend could provide the background for a formal dinner setting. A coarse cotton tablecloth in a bright color could set the mood for a casual family meal.

Plastic table coverings have become more attractive as they have become more popular. Plastics have many textured effects, interesting colors, and patterns. Plastic table coverings are inexpensive and can be easily wiped clean. Many people who have young children or who entertain outdoors prefer them. A plastic tablecloth would be appropriate for a summer display of dinnerware and accessories for a picnic. Paper tablecloths could provide display settings for children's parties, Halloween, or other special holiday occasions. Paper tablecloths are often used for informal party themes.

Tablecloth fabrics can be bought by the yard and constructed to fit a particular table. Whether a tablecloth is selected ready made or is custom made, the size of the tablecloth chosen should be determined by the size and shape of the table to be covered. Standard sizes for dining tablecloths are 64 inches by 72 inches, 72 inches by 90 inches, or 90 inches by 108 inches, depending on the size of the dining table. Smaller tables require smaller size cloths. Cloths for round tables are available in a variety of sizes. The tablecloth should overhang five to ten inches beyond the edges of a small table and ten to fifteen inches beyond the edges of a large table. Except for a buffet or serving table whose cloth may extend to the floor, tablecloths should never overhang more than twenty inches.

In the past, it was standard practice to completely cover a table. The trend has been toward partial covers, which expose the beauty of wood, or other attractive materials from which tables are made. Place mats and runners are partial covers that are practical for everyday use. They can create dramatic effects on special occasions. They may be cheerful or elegant, and they can be used to add variety to displays.



Place mats and runners, like tablecloths, are available in fabrics of many textures and colors. In addition to the fabrics used for tablecloths, many novelty materials such as straw, reed, cellophane, horsehair, and cork are used for place mats and runners. The type chosen for a display depends upon the mood of the display (formal or informal) and the design of table appointments shown.

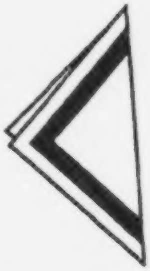
Place mats come in many new and interesting shapes. Rectangular place mats are most common. These standard place mats measure twelve inches by eighteen inches. Place mats also can be round, oval, or wedge-shaped. The shape of place mat chosen for a display should harmonize with the shape of the table. Rectangular place mats are generally used on rectangular or square tables. Round or wedge-shaped place mats generally look best on circular tables.

When placed on a table, place mats should be spaced far enough apart to let the table surface add to the effect. On a rectangular or square table, place mats should be laid flush with the table edge or 1 to 1 1/2 inches from the edge. Fringed place mats may look better flush with the edge. Narrowly hemmed place mats often look better away from the edge.

When using rectangular place mats on a round or oval table, a person should make sure the corners of the mats are flush or lined up against the edge. One part of an oval, scalloped, or small round place mat should be flush with the edge of a round table.

Runners are generally twelve to thirteen inches wide and as long as the table on which they are used. Runners can be placed along each side of a rectangular table as a background for place settings. A runner can also go down the center of a table, with the centerpiece or decorations placed on it. On a round table, runners can be crisscrossed for an unusual effect.

Napkins should harmonize in fabric, color, and pattern with other table linens and with table appointments. Napkins can match or contrast with the table covering. In a formal display with a white linen tablecloth, white linen napkins are an appropriate match. Solid yellow napkins would provide a pleasing contrast for a yellow checked runner.

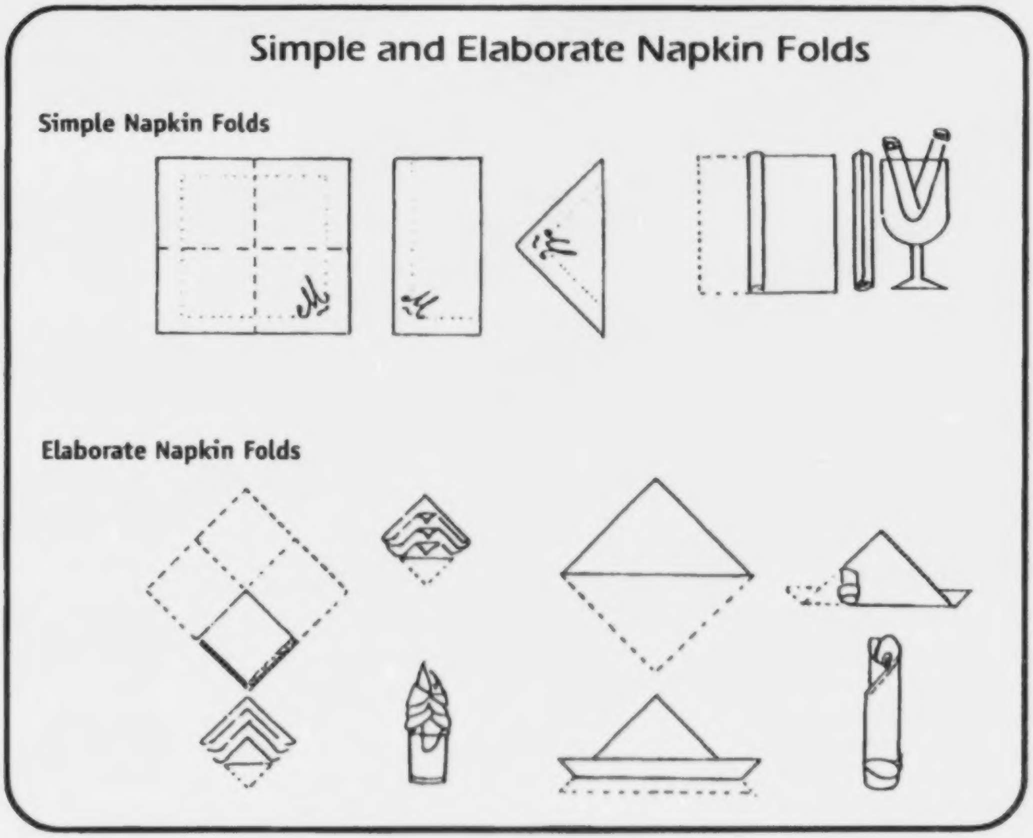


Napkins are usually made of fabric or paper. Though paper napkins are becoming more and more popular for family meals, cloth napkins offer more variety for displays.

Napkins range in size from small cocktail napkins to large dinner napkins. The size of napkin chosen depends upon the occasion. Dinner napkins measure twenty-two inches by twenty-two inches or twenty-four inches by twenty-four inches and are used for more formal occasions. Tea or luncheon napkins can be twelve inches by twelve inches or fifteen inches by fifteen inches. They accompany less formal occasions. Small cocktail napkins, measuring six inches by six inches are used for cocktails or refreshments and could be shown in a party display.

Napkins can be folded in many different shapes and placed in various positions to add interest to a display. Napkins are generally placed to the left of the fork, but they can be centered in a place setting. Napkins folded in an unusual manner could be stood on end or placed in a glass for a special display. Simple and elaborate napkin folds are illustrated in Figure 9.9.

Patterned table linens look best with dinnerware of a solid color, and patterned dishes often look best with solid table linens. However, combinations of patterns are sometimes fashionable. When patterns are combined in a table arrangement, a person should be careful to keep different patterns from competing with one another. Patterns used together should have the same degree of formality and should harmonize or contrast pleasantly. Competing patterns create a restless feeling. For example, in a casual display, a textured runner would provide a good background for solid-colored pottery. Fine, embroidered linen place mats would provide a formal background for delicately patterned china.



⇨ *Figure 9.9*

Bath Linens

Towels and shower curtains are often made to coordinate with each other. Towels for the bathroom include hand towels, fingertip towels, bath towels, bath sheets, and washcloths. High quality towels are heavier and more expensive, but tend to maintain their color, appearance, and plushness longer than less expensive ones.

Towels are made of a fabric called terry. ***Terry*** is a loop weave known for its characteristics of absorbency and softness. In the weaving process for terry, a third set of yarns is loosened during the process resulting in loops. In some cases, the loops on one side of the towel are cut to produce an even, plush effect. The loops on the opposite side are not cut. These uncut loops provide better absorbency.

The fiber content in towels can be 100 percent cotton or a cotton and polyester blend ranging from 84 to 86 percent cotton and 14 to 16 percent polyester. If a blend is used, cotton is used for the loops because it is more absorbent. The backing is made of polyester to provide strength and reduced shrinkage potential. The size and thickness of towels may vary. Thick pile increases the durability and the cost of towels.

Bath towels should be washed in warm to moderately hot water. Washing in hot water should be avoided because it can cause shrinkage and fading. Towels can be safely dried in a dryer, but they should be removed as soon as possible. Towels dried on a clothesline should be shaken when almost dry. This process fluffs the loops and increases the absorbency of the towel.

The standard sizes of bath towels include the following:

Washcloths	12" x 12"
Hand Towels	15" x 25" and 16" x 26"
Fingertip Towels	11" x 18"
Bath Towels	22" x 42" and 24" x 44"
Bath Sheets (large towel)	35" x 65" and 36" x 68"

Shower curtains may be made of plastic or fabric. Plastic shower curtains may be used without a liner. A plastic liner should be used with a fabric shower curtain to protect it from getting wet. Curtains for shower stalls should be six and a half feet long and six feet wide. Curtains for a shower/tub combination should be six feet wide and six feet long.

Bed Linens

Bed linens include sheets, pillowcases, blankets, and bedspreads. Designs on bed linens make them an element of decoration in a bedroom. Designs are often coordinated with furniture styles. Sheets are often used in various ways to decorate and coordinate furnishings in a room. They may be used as tablecloths or as wall coverings. They also can be used to make pillows and draperies that coordinate designs and colors in a room.

The tensile strength and thread count of a sheet determine its durability. ***Tensile strength*** is the number of pounds of pull necessary to break an inch of fabric. A tensile strength of sixty indicates a stronger sheet than one with a tensile strength of forty. The ***thread count*** is the number of lengthwise and crosswise yarns located in one inch of fabric before shrinkage. A percale sheet may have a thread count as high as 200 while a muslin sheet may only have a thread count of 140.

Pillowcases and sheets are often made of percale, muslin, and satin. ***Muslin*** is a plain weave sheer cotton cloth that is very durable. Muslin sheets have a typical thread count of 140.

Percale sheets are more lightweight and cooler than muslin sheets. These sheets are made of closely woven cotton and polyester yarns. Most have a fabric content of 50 percent cotton and 50 percent polyester. A new all cotton percale sheet has been introduced with an anti-wrinkle finish. The thread count on percale sheets averages about 200. ***Satin sheets*** are more difficult to wash, but they do have a luxurious feel. Sheets are available in various sizes and styles including twin, full or double, queen, and king sizes. Pillowcases are available in standard and king size. Queen size pillows may be found occasionally. Fitted bottom sheets are often used and must be selected to fit a mattress appropriately. Fitted sheets that are too small and too tight can eventually cause the mattress to buckle and the sheet to wear out quickly. Sheets that are too big will have uncomfortable wrinkles. Top sheets may be fitted at the bottom or completely flat. Flat top sheets are usually preferred. It should be twenty-four inches longer than the mattress to provide tucking in allowance.

◆ Essential Questions: ◆ Linens

1. What is the purpose of table linens?
2. What is the recommended overhang for tablecloths?
3. Why is the fiber content of bath linens and bed linens important to consider?

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Chapter Highlights

- Some accessories may be both decorative and functional.
- Some small accessories are significant and permanent while others are trivial and temporary. In a home, the small accessories reflect individual tastes and interests more than anything else.
- All wall accessories should be arranged in relation to a piece of furniture such as a sofa, chest of drawers, bookcase, or table.
- Vertical pictures fit best in narrow wall spaces. Large horizontal pictures require a large wall space.
- Mirrors can be both functional and decorative.
- Well-planned lighting enhances the mood and decorative scheme of interior environments.
- Incandescent lights use more electricity, are more expensive to operate, and produce more heat than fluorescent lights. But, they are more flattering to skin tones.
- The design of a lamp should be related to the style and decoration of the room arrangement. The scale of the lamp should be suited to the furniture on or over which it is placed.
- Plastic wrappings should be removed from lamp shades before they are used. The plastic wrappings create glare, can warp the frame, and wrinkle the shade. Some plastic wrappings are fire hazards.
- Plants complement the lines of modern architecture in addition to adding color and style.
- A general rule for table centerpieces is to keep them low enough for seated guests to see over or thin enough to see through.
- An attractive table contributes to the enjoyment of food and pleasant conversation in the home. It also contributes to beautiful displays and increased sales in the store.
- Table linens refer to any table covering, including place mats and napkins, regardless of the fiber content or material used.
- Sheets are available in various styles and sizes including twin, full or double, queen, and king sizes.

Chapter 10

Walls and Ceilings

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

2A Analyze characteristics of materials and workmanship in relationship to durability and use.

3C Describe trends in materials, accessories, lighting, and space utilization.

3F Describe characteristics, use, and care of wall treatments.

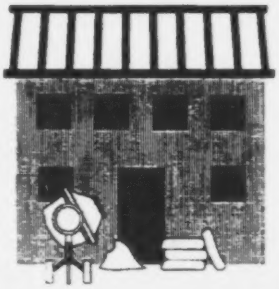
Chapter Vocabulary

- ashlar
- borders
- cobblestone or fieldstone
- coffered ceilings
- coved ceilings
- damasks
- deciduous trees
- domed ceilings
- dropped ceilings
- embossed papers
- flocked papers
- frescoes
- gabled or cathedral ceilings
- glass block
- granite
- grass cloth
- gypsum board
- hardwoods
- intumescent
- limestone
- load-bearing
- marble
- mason
- mildew
- mortar stain
- murals
- nonload-bearing
- oil-based paints
- oxidation
- rubble
- run number
- sandblasting
- scenic patterns
- sealer
- shed ceilings
- sizing
- slate
- softwoods
- spackling compound
- toile
- Toiles-de-Jouy
- tooth
- tray ceilings
- vapor barrier
- wax

Walls and ceilings are an important part of any home. They provide both privacy and protection from the outdoors as well as aid in heating, cooling, lighting, and absorption of sound. They determine the size, shape, and character of a home. The materials and finishing treatments chosen for the walls and ceilings can greatly affect the unique individuality of each person's interior environment. Therefore, careful consideration should be given to the materials available.

WALLS

Walls account for the largest amount of space in a home; therefore, the subject deserves special attention. Two broad categories of walls exist in every home. They are structural or ***load-bearing*** and ***nonload-bearing***. The load-bearing walls support the ceiling or roof of a building in addition to their own weight. Nonload-bearing walls do not support extra weight. These are mainly used to enhance the beauty or aesthetics of a room or space. Load-bearing walls should never be removed or altered because the ceiling could fall and cause serious damage. An architect or engineer should always be consulted before structural changes are made.



The type of materials selected should be determined according to the function and decoration of the home and room because wall treatments can enhance the function of a room. Each type of wall material has qualities that may enhance or even detract from a room's function. Certain treatments can make a room seem formal or informal. The formality of a room's wall treatment should fit the desired mood of the room.

A textured wall helps to create an overall atmosphere in a room. Smooth walls are formal, while textured walls tend to be informal. Textured walls may be more difficult to clean than smooth walls. This should be considered when choosing a wall treatment for a particular room.

Color is an important consideration when selecting wall treatments. Walls define the size and shape of a room, so neutral colored walls are the choice in many design schemes. A room may not seem overpowering with a neutral color. Other factors to consider when choosing a wall treatment include pattern, cost, upkeep, and durability. It is important to remember that kitchens, children's rooms, hallways, and bathrooms require surfaces that are washable. Several types of wall materials may be used when designing rooms. They include wood, brick, stone, concrete block, glass block, tile, plaster, gypsum board, paint, and wall covering.

◆ *Essential Questions:* ◆
Walls

1. What is the difference between load-bearing and nonload-bearing walls?
2. What determines the type of materials used for walls?
3. How does the texture of the walls affect the mood of the room?

WALLS MADE OF WOOD

Wood has been used for building since the earliest civilizations. Wood naturally has many properties that make it a superior wall choice. It is an excellent insulation material

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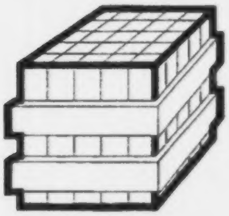

and is more efficient than brick, stone, steel, and aluminum. Wood is very strong which is another reason that it is commonly used in construction. The natural beauty of wood is seen in the graining and color. Wood has a nice feel and often has a pleasing odor that adds to its appeal.

Although wood has many wonderful characteristics, it is necessary to identify its limitations. Some of these limitations are that it burns, decays, and scratches; termites and other insects can attack it; and, it expands and contracts when the humidity changes. As one of our natural resources, wood is limited in quantity. Many woods are becoming rare and could possibly become extinct. These woods are tropical woods such as redwood, ebony, rosewood, teak, and certain species of mahogany. Wood is primarily used in residential rather than commercial settings unless it is treated to meet the fire and building code restrictions.

Because there are many types of wood, it is important to understand the primary differences. Wood is characterized as either soft or hard. ***Softwoods*** are from needle-bearing trees or evergreens that retain their leaves all year. Some of these are fir, pine, cedar, redwood, and spruce. ***Hardwoods*** come from a variety of nut and fruit trees, such as pecan and cherry. Hardwoods also come from broad-leafed ***deciduous trees,*** which drop their leaves in the winter, such as oak, maple, and birch trees. Hardwoods are actually harder, more attractively figured, have finer graining, and are more costly. Softwoods are more readily available and shape more easily with basic tools. However, they do not seem to take finishes as easily as hardwoods.

Wood is available in solid wood strips ranging from 4 to 12 inches wide and paneling in 4 by 8-foot sheets with or without random-sized grooves, or shingles. Shingles are most commonly used for exterior walls, but work well for interior walls where there is a great deal of moisture, such as with saunas.

Plywood is another type of wood that is produced from thin sheets of wood veneers called plies which are laminated together under extreme pressure with special adhesives to produce a piece that is stronger than the wood itself. When plywood is applied to walls, wood molding (narrow strips of wood applied to the surface of the wall that project out) is used to create a paneled effect. Molding can be purchased that is either stain or paint quality.

It is important to remember that when selecting any species (mahogany, walnut, cherry, etc.) of wood that there are various grades. The higher or more refined the wood is the more expensive it will become. The lower the grade the less expensive it will be. Another important thing to remember is that depending on the type of wall and finish selected, it may not be necessary to buy the most expensive wood. For example, if a person wants to apply paint to the wall, the figures in the wood graining will not show so it is more cost effective to buy a lesser quality wood product.

Wood may be installed horizontally, vertically, or diagonally. Each type of installation gives a different feeling to a room. Horizontal installation makes a room look longer. Vertical installation makes a room look taller or adds height to the room. Vertical installation gives a formal look. The most informal look is achieved with diagonal installation. It is best to use diagonal installation on a wall with few or no windows.

Special precautions must be taken for wood that is to be used on an outside wall. A **vapor barrier** (a film to keep moisture out) is required, such as a polyethylene (paraffin-based synthetic substance) film. It is also recommended that the wood be stored for several days in the area where it is to be installed. This allows the wood to obtain the correct moisture content. Wood should receive several applications of a water-repellent finish to all sides. This process is especially important in areas with high humidity levels.

Several finishes are used for wood walls. **Wax** adds a soft finish to the wood. A ***sealer*** (a substance used to close or form a seal on a porous surface) and a matte (dull) varnish are good to use on wood surfaces that may need regular cleaning. The wood may also be stained.

Cleaning wood walls is important. To remove surface buildup of dust or grease, a lint-free cloth should be used with a furniture polish that contains no waxes. Various wood detergents are available to clean stubborn accumulations. Immediately after cleaning, wood should be wiped dry with a clean, dry cloth. Care should be taken when purchasing wood cleaning products. Some products contain silicone and will make it impossible to refinish the wood.

◆ Essential Questions: ◆
Walls Made of Wood

1. What are the advantages of choosing wood for walls?
2. What are the disadvantages of wood as a wall material?
3. How should wood walls be cleaned?

MASONRY WALLS

In today's terms, the word masonry suggests anything that is constructed of materials such as brick, stone, tile, concrete, or plaster. Originally, masonry only meant products which were put together with mortar by a mason, such as tile, brick, and stone. A ***mason*** is a person who builds with brick and stone.

There are many advantageous qualities of masonry products. Masonry is extremely durable and is not affected by insects, fire, or moisture. It can be manipulated with tools to have curves or angles. Masonry can be laid in various patterns, some simple and some very complex.

One of the disadvantages of masonry products is that some types are expensive to purchase initially. However, they may actually cost less than many other products over time. Even though masonry is basically permanent, some problems with it do exist. For example, stucco, plaster, tile, and marble can chip and stain; they are costly and difficult to repair. These products are not good insulators from cold weather and dampness and they seem to reflect noises rather than absorb sounds.

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Often, rugs and other fabrics are used to reduce noise levels. Compared with metal and wood, stone retains its shape under pressure, but is not as strong for spanning gaps, such as in wide stretches of ceiling.

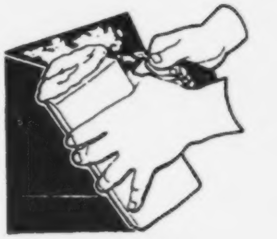
Brick

Brick, one of the oldest of man-made building materials is still used primarily in exterior wall construction. Because brick is fireproof and weather resistant, it is also used for fireplace walls and hearths.

The most common size for brick is 2 1/4" x 4" x 8 1/4", but the dimensions can vary greatly. Brick is made from clay that is hardened by kiln (oven) drying. The surface of a wall may be smooth, rough, or grooved depending on the type of brick chosen. Interesting wall patterns can be created using bricks. Bricks are available in many colors including reds, browns, and whites.

The joints (places where the bricks are joined by mortar) in a wall installation are extremely important because of the special effects they can create. The mortar in the joints consists of a mixture of portland cement, hydrated lime, and sand. Joints may provide function by creating a waterproof seal around bricks, or bricks may be joined in various ways to create decorative effects.

The biggest problem with finishing brick walls is the mortar stain. Mortar is a mixture of cement, sand, and water used to bind bricks or stone together. The bricks are placed on a bed of mortar and mortar also is spread on the top surface of the bricks. ***Mortar stain*** is a stain caused by an excess of mortar on the face of brick or stone. This mortar stain can occur even if the mason is skilled and very careful. The stain usually can be removed with a mixture of trisodium phosphate, a household detergent, and water. To remove mortar stain, a person should scrub the walls with this solution then immediately rinse with water.



General maintenance for bricks includes brushing and vacuuming to remove accumulated dust. Brick walls located in areas where they are likely to come in contact with grease should be sealed to prevent the grease from penetrating the wall. For example, a brick wall in a kitchen probably would need to be sealed.

Stone

Even though wood is perhaps the most popular natural building material for homes, it is not always available. In rocky, treeless areas, such as southern Italy, people use the local stone to build their homes. There are parts of Texas that are known for having an abundance of types of stone. For instance, Austin, Texas is known for "Austin Stone" and it is used for a great deal of home construction. Stone is a very desirable natural material for walls because it resists fire and is a natural insulator, but it can be quite expensive to purchase. This type of wall is usually applied as a thin surface layer over another wall structure or frame, also referred to as a veneer. Three categories of stone exist. ***Rubble*** is stone that has not been cut into a rectangular shape. It is informal, requires more mortar to install, and is not as a strong because of the irregularity of the stones.

Cobblestone or ***fieldstone*** is stone that has a more rounded shape. ***Ashlar*** is stone that is cut to have a more uniform rectilinear or straight shape.

Numerous types of stone can be used in wall construction or as a veneer, but limestone, marble, granite, and slate are most commonly seen in walls and fireplaces.

- ***Limestone*** is a relatively soft and easy to cut rock that ranges in color from white to dark gray and tan.
- ***Marble*** is crystallized limestone usually highly polished and come in black, grays, whites, pinks, reds, and greens.
- ***Granite*** is a type of natural rock that is available in light to dark grays, pinks, greens, yellows, browns, and blacks.
- ***Slate*** is a fine-grained sedimentary rock that splits into thin, smooth sheets. Typically, slate is bluish-gray but also comes in green, red, or black.

Concrete and Concrete Block

Concrete (a mixture of gravel, cement, and water) is the oldest of all manufactured building materials. The Egyptians used concrete columns in their buildings some 3600 years ago and these columns are still standing today.

Walls made of concrete for home construction are often in the form of concrete block. However, in certain parts of the country builders are using poured concrete walls in residential application. Currently, concrete blocks are seen mostly in commercial buildings and schools. The mason installs a concrete wall in almost the same way as a brick wall. But because the typical size of concrete blocks is 8" x 8" x 16" and 4" x 8" x 16", the installation goes much faster than brick.

While a brick wall is only seen from one side, a concrete block wall is usually seen from both sides and should be finished accordingly. Concrete block walls should not be cleaned with an acid solution as brick walls are cleaned. Excess mortar should be allowed to dry; then it can be chipped off. Excess mortar may be removed by rubbing the wall with a small piece of concrete block.

To paint a concrete block wall, a block filler must be used to cover the porous surface. An alkaline resistant primer usually is needed. The directions for cleaning and caring for painted walls should be followed.

Essential Questions: ◆
Masonry Walls

1. What are the advantages and disadvantages of masonry products?
2. Why is stone a desirable wall material?
3. Why is concrete block a desirable wall material for schools and commercial buildings?

OTHER WALL MATERIALS

A variety of other materials are often used for walls. These materials include glass block, ceramic tile, plaster, and gypsum board.

Glass Block

In the early 1900s, glass block was used as sidelights (windows on either side of the front door) or in bathrooms. Today, architects and interior designers find many creative uses for it. However, its use is limited to non-load bearing applications such as interior shower walls.

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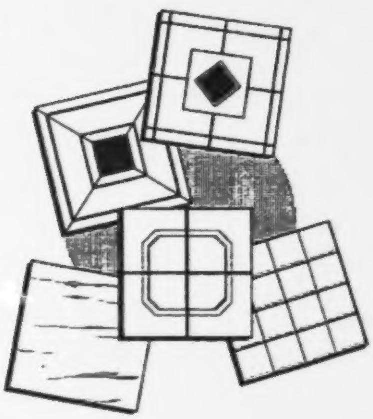
Glass block is made from two pieces of pressed glass that are fused together. The center of the block is hollow and allows air to be trapped to provide insulation. The obvious advantage of glass block for interior or exterior walls is that is allows light to pass through whether natural or artificial, but it distorts images so that the block provides privacy.

Standard glass block is 3 7/8" thick. It is available in 6, 8, and 12-inch squares or in 4" x 8" and 6" x 8" rectangular blocks. Installation is done by applying mortar between the blocks or by using special clear spacer strips, silicone sealant, and a perimeter channel, which is made by the manufacturer of glass blocks.

An appealing feature of glass block is how easy it is to clean. Water and a soft rag will remove dirt and mortar from the surface of the glass. Use of rough materials like steel wool should be avoided, as they will scratch the glass.

Ceramic Tile

When a durable wall material that is waterproof and cleans easily is needed, ceramic tile is often used. Ceramic tile is primarily installed for bathroom walls and around bathtubs and showers. It is used in the kitchen both as a countertop and a backsplash (the vertical surface behind the countertop or stove) material.



At one time, the most common bathroom wall tile size was approximately 4 1/4" x 4 1/4". Today, it is more common to see larger-sized tile used for these applications. For instance, the shower walls might have 8" x 8" or 12" x 12" tile that was once thought of as only floor tile. One advantage to applying larger tiles to these surfaces is that less grout is exposed and thus there is less maintenance involved.

Installation of tile onto vertical surfaces requires a backing material to prevent the tile from sagging due to gravity. This material also is recommended for floor application when laying tile on a wood sub-floor to keep the tile from shifting and thus cracking. The Handbook of Ceramic Tile Installation, available from the Tile Council of America, is the nationally accepted guideline for tile installation. Guidelines are even given for materials other than ceramic tile.

Maintenance for ceramic tile is relatively easy as there are numerous products on the market that help take off soap scum and mildew. When using tile for areas that get quite dirty, such as the backsplash (especially behind the stove), it is recommended that the grout be sealed. This can be done with either a commercial tile grout sealer or using lemon oil furniture polish. Sealing the grout makes cleanup much easier where grease and food can soil the grout.

Plaster

The ancient Egyptians and Greeks are known for their use of plaster walls. They decorated them by painting murals on them. Early ***frescoes*** are paintings or designs that were painted onto wet plaster with water-based paints. The wet plaster absorbed the colors and dried as part of the plaster, creating a brilliant color that lasted for thousands of years. Today, plaster walls are only found in very expensive homes or in commercial applications. Because of the amount of time it takes to apply, plaster installations cost about $2 per square foot, as compared with fifty cents per square foot for gypsum board. Plaster can be applied to a wall as a veneer that costs much less, but gives the appearance of solid plaster.

Before applying paint to plaster, it is necessary to make certain that the plaster is solid and has no cracks. It must be smooth. Cracks or other irregularities will be emphasized with paint. To achieve a smooth wall, the surface must be sanded with fine sandpaper. The fine dust should be brushed away from the surface. Because plaster is so porous, a primer that seals the surface should be applied before painting.

After the walls are sealed and painted, they can be cleaned basically the same way as any painted surface. Plaster walls are easily damaged, so great care must be taken in cleaning them. If a plaster wall is lightly soiled, the sponge cleaning method should be used. The sponge should be dipped into a bucket of mild detergent and wrung tightly. The surface should not be scrubbed because it may remove the paint or damage the wall. The wall should be allowed to dry thoroughly. Extremely dirty walls may need to be painted again.

Gypsum Board

Gypsum board is the most common material used on residential walls. Gypsum board is synonymous with the term drywall. It is often mistakenly referred to as sheetrock, which is a registered name of the US Gypsum Company's brand of gypsum board. This type of drywall is available in 4' x 8' sheets. The sheets are applied to a stud wall frame, either vertically or horizontally and attached with drywall screws. Then the material is taped together with a special type of tape and floated with joint compound (often called "mud"). More joint compound is applied and feathered along the edges until the tape is no longer visible.

The surface of the gypsum board can either be textured to paint or it can be sized for wallpaper. One of the main reasons for texturing drywall is to hide any surface problems caused by warping studs or tape joints. Today, much of the texture is actually sprayed onto the walls.

◆ Essential Questions: ◆
Other Wall Materials

1. What are two advantages of glass block?
2. Why is ceramic tile a popular choice for bathroom and shower walls?
3. What is meant by "drywall"?
4. Why is drywall usually textured?

WALL TREATMENTS

Treatments used to finish and decorate walls include paint and wall coverings. Paint is the most common type of wall treatment used in homes. The next most common treatments are wallpaper and wall coverings. People have been covering walls for a long time, although prepared paints have only been available on the market in the United States since 1867. However, records of the Chinese mounting rice paper on their walls exist from as early as 200 BC. Actual documentation of people using wallpaper begins in Europe in the 1500s.

Since walls make up the largest area in a room, wall treatments must harmonize with the overall decorating theme and with the size and shape of a room. Walls should complement the furniture and accessories in a room.

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Walls can become the focal point in a decorative scheme, camouflage awkward features, and visually change the size and shape of a room. Wall coverings create different moods and effects. A wide variety of wall coverings and finishes are available which allow a customer to have many selections from which to choose.

Paint is a low-cost wall treatment that is flexible and simple to apply. Interior design assistants should be familiar with types of paint sold at their places of employment. They should know, for example, if paints are sold ready mixed or formula mixed. Paints are available in textures and in high gloss, semi-gloss, or satin finishes. Varnishes and stains also are used as wall finishes. Factors to consider when selecting paint for a specific purpose include costs, color desired, type and condition of the surface to be covered, and durability.

Faux finishes and texture finishes are very popular wall treatments. These finishes are created by applying different paint colors, shades of colors, or glazes using a variety of tools to create special looks. Faux finishes can give the wall the appearance of stone, marble, columns, and all types of textures.

Wallpaper is a popular wall covering with both advantages and disadvantages. Wallpaper can be used on any smooth surface. It can hide defects very well. Most wallpapers hide flaws in the surfaces they cover. However, like paints, the glossy finishes allow flaws to show. Wallpaper can be sold in a variety of patterns, textures, and materials. Many types of wallpaper are easy to clean and are very durable.

Wall finishes introduce their own special visual effects, similar to flooring. Before choosing materials for a particular wall, the overall decorative effect and mood must be decided upon. Strong decorative effects on walls are more suitable in large rooms. Color and other decorative effects created with textures and designs can play visual tricks when combinations are used. Figure 10.1 describes guidelines to follow when selecting a wall treatment.

Paints

In the past, paint was used as decorative material. Today, modern technology has allowed paint to be used as both a decorative material and a protective finish. Paint is a popular wall treatment. It is the most inexpensive way to change the environment. It can be used to alter the appearance of a wall, change the mood and atmosphere of a room, and enhance the psychological perceptions of a room.

There are many types of paint available on the market today. They are classified according to their vehicles or binders. The vehicle or binder is the liquid portion of the paint. These vehicles can be water, oil, varnish, or dissolved synthetic resins. A resin is a solid or semisolid organic substance that comes from various plants and trees. Resins deposit the film that forms on painted surfaces.

Types of paints include oil-based paints, alkyds, latex paints, enamel paints, and flame-retardant paints. ***Oil-based paints*** consist of a pigment or color suspended in linseed oil. These paints were the traditional house paint until alkyds were developed.

Alkyds are oil-modified resins that dry much faster and harder and are more durable than ordinary oils. The drying of this type of paint results from both the evaporation of the solvent and the oxidation of the oil. The solvent is a liquid that dissolves (breaks apart) something such as resins, gums, or other binder materials. Solvents evaporate or change from liquid to vapor and disappear during drying. ***Oxidation*** is the chemical combination of oxygen with the liquid of paint. Oxidation leads to drying. The more oil there is in the mixture, the longer the drying period and the better the elasticity.

Guidelines for Selecting Wall Finishes

Color
- Brightly colored walls pull walls in and make a room look smaller. They can also produce a warm or cozy mood.
- Light colors cause the walls to recede, increasing the visual size of a room.
- Small rooms look larger when woodwork is painted to match the walls.

Pattern
- Bold patterns advance and make rooms seem smaller.
- Small-scale patterns increase the feeling of space in a room.
- Small adjoining areas or rooms look larger when matching colors and patterns are carried from one room to the next.
- Mirrors expand the space of a room by visual illusion.
- When wall coverings are matched to drapery and upholstery fabrics, it gives a spacious feeling to a room.

Texture
- Rich textures and dominant treatments pull walls in and make a room look smaller. They too can produce a warm or cozy mood.
- Smooth textures increase the feeling of spaciousness in a room. They also create an airy look or feel.

⇨ *Figure 10.1*

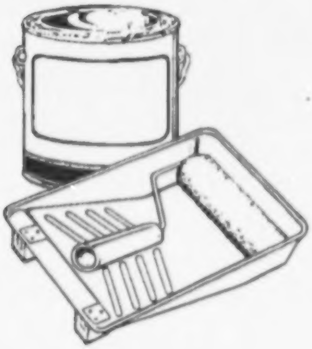
Elasticity in paint is needed in some cases to allow the paint to contract (draw together or shrink) or expand (spread out or enlarge) with the effects of the temperature. For example, hot temperatures can cause wood to expand. If the wood is painted with an elastic paint, the paint will expand with the wood rather than crack under the pressure of the expanding wood.

Alkyd paints dry very quickly and evenly. They are durable for both interior and exterior application. They are easy to apply and relatively inexpensive. However, when used on exteriors, alkyd-based paints provide poorer gloss and color retention and tend to yellow over time compared to latex exterior paints.

Latex paints are manufactured materials that can vary in hardness, flexibility, and gloss retention. The drying of latex paints results from coalescence, or uniting, of the latex particles as the water evaporates. Latex paints have a water base instead of an oil base. They have many advantages over alkyds. They are easier to apply and have a minimum odor. They also dry faster which makes them able to accept another coat of paint quicker. Latex paints do not blister or peel easily and are less of a fire hazard than oil-based paints. They can be cleaned with soap and water, and they tend to "breathe." This means the moisture that accumulates behind the paint film is allowed to escape without causing blistering and peeling.

Finishes or lusters, available in latex and alkyds, include the following:
- Flat finish - This finish has no gloss. It has a soft-looking surface for walls that do not need much washing.

- Eggshell enamel finish - This finish is a dull luster for washable surfaces such as trim and woodwork.
- Semigloss - This finish is used for woodwork to give it enough sheen to contrast with flat-finished wall surfaces.
- High gloss enamel - This is a very shiny surface that washes easily. The higher the gloss, the more likely it is to show flaws and surface irregularities.



Enamels are paints that produce a hard, glossy, durable finish. The highest sheen is produced by alkyd enamel. There also are water-based enamels, but they produce a lower quality finish than the alkyd enamels. Few water-based enamels dry to a true glossy and hard finish.

There also are textured paints, enamels, varnishes, and antiquing kits. Factors to consider in selecting paint for a specific purpose include cost, color desired, type and condition of the surface to be covered, and amount of wear. The most important factor is whether the surface is indoors or outdoors.

Flame-retardant paints are different from conventional paints because they are able to slow the process of burning. These paints are specified for public buildings. After the numerous hotel fires in the early 1980s, flame-retardant paints gained much attention. These paints can work in two ways. Some are ***intumescent***, which means that bubbles and blisters form to create an insulating layer. Other flame-retardant paints give off a gas that excludes air from the surface. This exclusion of air extinguishes the flames. For a better understanding of flame-retardant paints, consult an employee of a paint store.

A primer is the first coat applied to a surface before paint or stain is applied. The primer may have an oil, alkyd, or latex base. Some primers also serve as sealers and protectors. There are many different types of primers for many different types of jobs. A person should read the manufacturer's specifications for the information needed for a particular job.

Surface Preparation. There are many important considerations regarding paint. Surface preparation is one of them. ***Mildew*** is a white coating caused by a fungus that appears on surfaces when exposed to dampness. It is a major cause of trouble with paint and painted surfaces. The paint itself does not produce mildew, but mildew is caused by a fungus that thrives in any damp, warm place. Mildew can be an interior or exterior problem. There are several mildew cleaning solutions available. The most common is a mixture of bleach and water. A mildewed surface should be cleaned properly before new paint is applied. Several paints on the market today contain an anti-mildew additive that helps reduce the severity of the problems mildew can cause.

The moisture content of wood is usually the major consideration when painting wood. A moisture content of 5 to 10 percent is the proper range. Modern technology has enabled wood to be

kiln-dried. Controlling the drying of wood in an oven results in a specific moisture content. Unfortunately, this is not a permanent process. Exposure to high humidity before or after painting may change the moisture content of the wood.

Knots in wood, especially pine, can cause difficulties in painted wood. Resins in the knots may seep through the surface of the paint. Special knot sealers must be used before any paint is applied.

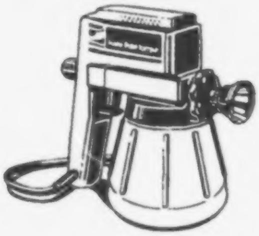
It is important to fill all cracks and nail holes with a wood putty or filler. Fillers may be in liquid or paste form. They are made of finely ground rock called silex. This putty or filler may be applied before or after the primer is applied. A person should check the instructions on the container of primer to determine what type of putty or filler should be used.

Sanding is usually required before painting and between coats of paint. This process is done to give the surface tooth. ***Tooth*** is a slight texture that provides good adhesion for paint. Paint can chip and peel from smooth surfaces if this procedure is not followed.

When preparing gypsum wallboard, all seams must be taped. All nail or screw holes must be filled with a ***spackling compound***, which is a paste that dries hard. Various textures may be applied to gypsum wallboard before it is painted.

A primer must be applied to metals before paint is applied. All loose rust and paint must be removed. Mill scale is an almost invisible surface scale of oxide that remains on iron after it is heated. It should be removed. This can be done several ways including hand sanding and sandblasting. ***Sandblasting*** is a process in which fine silica particles are blown onto the surface under high pressure. After sandblasting, a rust inhibitive primer should be applied.

Application. Paint can be successfully applied by brush, roller, pad, or spray. The type of application used depends on the type of paint, characteristics of the surface to be painted, and other factors.



Regardless of the type of brush used, it should have flagged bristles. Flagged bristles are bristles with split ends, which allow the brush to hold more paint. This allows the paint to flow smoothly onto a surface. Poor quality brushes have very little flagging. Brushes are best to use for woodwork and uneven surfaces.

Rollers are used to apply paint to walls and flat areas. The appropriate nap (length of the fibers) on the paint rollers should be used. Paint rollers should be selected according to the surface textures for which they are to be used. A short napped roller should be used for smooth surfaces. Rougher textures require longer napped rollers. The longer nap allows the paint to be spread into all crevices and creases in a rough texture.

The pad form of applying paint consists of a foam pad covered with mohair (silky long hair of the Angora goat) or a napped fabric. It results in a smoother, more even coat of paint.

Use of spray guns to spray on paint has increased in popularity. Spraying is eight to ten times faster than other methods of painting on a flat wall. Airless spray guns use fluid pressure; conventional spray guns use air pressure.

Spraying on paint is the method used for finishing furniture. For a clear finish on furniture, a special heated form of lacquer is used. It dries quickly to a very hard film and produces fewer toxic fumes.

Maintenance. Painted walls may be smooth or textured. Both require the same basic care. Many experts recommend that walls be dry-dusted with a clean cloth before being washed. If surface dust is obvious, dusting before washing will speed the cleaning process. If dry dusting is done on a humid or rainy day, it can leave streaks on the wall. Walls should be dusted in an upward movement because dust tends to cling to walls at downward angles. Cloths should be changed as they become soiled.

An effective cleaning solution should be chosen to wash painted walls. The solution should be strong enough to do the job without staining, dulling, or removing the paint. A pail and sponge or a mop and bucket may be used. Strong alkaline cleaners remove dirt and paint. Rinsing walls thoroughly and wiping them dry immediately is important. Chamois cloths (leather cloths used for polishing) are recommended but can be expensive.

Wall Coverings

Some sort of covering for the walls of early European homes was almost essential. Coverings were used for insulation to make the rooms livable. Leather was one of the original materials used as a wall covering. In the eleventh century, Arabs from Morocco (on the northwest coast of Africa) introduced decorated and painted leathers to Europe.

The Romans and the Greeks were known for their lavish use of woven and embroidered draperies of wool and linen. These were used in both their public buildings and their homes. They used these draperies even though their walls were made of polished marble and beautifully finished stone and plaster. These wall hangings also were needed for insulation. Woven materials were the most obvious solution and the evolution of the tapestry was soon to follow. Rich silks were imported from the East for the purpose of making elaborate tapestries for wall hangings that served as insulation and created a dramatic atmosphere.

The making of tapestries required time, skill, and expensive materials. Tapestries were too expensive for all but the wealthy to purchase. Serges were simpler woolen weaves that cost considerably less. Even serges cost too much for most people. There was a great need for an inexpensive wall covering that would make the walls look finished and livable and provide warmth.

France, England, and Holland each have claims for the honor of the origination of European wallpaper. Painted papers were the earliest to appear. Records exist of Louis XI, king of France, purchasing fifty rolls of hand-painted paper in 1481 from a local artist.

Flocked papers were first used in the early 1600s in France. The designs were printed with a type of glue. Finely chopped bits of silk and wool were sprinkled over the glue creating a look that was a good imitation of damask or velvet.

The Industrial Revolution greatly reduced the cost of wallpaper making it affordable to almost anyone. Wallpaper is now known as wall covering due to the fact that wall coverings are not all made of paper as they were in the past. They can be made of vinyl, fabric, grass cloth, string, or paper. Types of wall covering include embossed papers, grass cloth, vinyl wall covering, and borders.

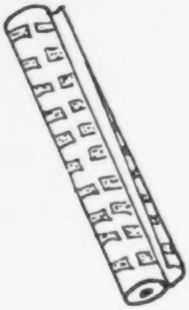
Embossed papers have a texture rolled into them during the manufacturing process. These papers are printed to have the appearance and feel of the rough surface of fabrics.

Grass cloth is made of loosely woven plant fibers that are backed with paper. It is characteristic of these fibers for their width and color to vary providing a highly textured surface. Since these fibers do vary, it is impossible to match one strip to another. The seams are obvious.

Vinyl wall covering is backed with a fabric or heavy paper and is very durable. Most vinyl wall covering is waterproof and stain resistant. These are used primarily in commercial or contract applications.

Borders are narrow strips of decorative wallpaper used around doors, windows, and areas where walls and ceilings meet or on walls in various heights parallel to the floor. Borders can be used alone or with other wall coverings.

Wall coverings are available in many different patterns. They include coordinated or companion floral patterns, toiles, paisleys, damasks, geometric patterns, scenic patterns, and murals.



Coordinated wall coverings or companion wall coverings are patterns that coordinate or go together well. They are popular. It is important to remember that even though they are called coordinated or companion wall coverings, they do not necessarily match. They are very close. With different dye lots (batches of mixed dye), fibers, and fabrics a perfect match is almost impossible.

Floral patterns are flower or plant designs that may be small or large, bold or subdued, or neat or randomly arranged. Color is important in any floral pattern, increasing or decreasing its naturalness and making it formal or informal. Paisleys are leaf or cell-shaped designs.

Damasks are large designs of a scroll-type pattern. They have a regular repeat rather than a random repeat. These are recommended for formal settings. Geometric patterns are based on angles and curves. Striped, plaid, and checked patterns are often classified in this category.

Scenic patterns are wallpapers that have repeating scenes. These scenes may include animals, buildings, people, or other subjects. ***Toiles-de-Jouy*** (Toile) was cloth made in Jouy, France, by Christopher-Philippe Oberkampf during the 18th and 19th centuries. The cotton cloth was decorated with line drawings of scenic patterns, which were brick red, blue, green, pink, etc. on a white or cream-colored background. Modern reproductions of toiles continue the typical design of figures and landscapes although the backgrounds may have a soft color. Today, the term ***toile*** is also used for wallpapers that have the same type of prints or scenes. They are recommended for traditional settings since the subject matter is traditional. ***Murals*** are complete scenes that do not have a repeat. Some murals may require nine or ten panels to complete the scene.

Wall coverings may be produced by roller printing or silk screening. Roller printing is the most common type of printing. It is used for less expensive wall coverings. The inks are transferred from a roller directly onto the paper.

Silk-screened papers are usually more expensive due to the printing process. A separate screen or pattern made of silk is constructed for each color used. Each color must be allowed to dry before another color is applied. Because silk screening is a hand process, the patterns do not always meet at the seams as well as patterns on roller printed paper.

Stains or other problems on wall coverings should be corrected as soon as possible to prevent permanent damage. The inks and dyes on paper wall coverings should be tested in a hidden area to determine if they are permanent before using a particular cleaner. Scrubbable wallpaper is wallpaper that can be scrubbed with a brush without the top layer being rubbed off. Wallpaper designated as scrubbable by the manufacturer can be cleaned with a soft brush. Water may be used.

Grass cloths may be vacuumed to remove dust. A person should be careful to follow the manufacturer's instructions for cleaning the wall covering. Vinyl and vinyl covered walls should be cleaned once or twice a year especially in areas where grease and oils may accumulate. Vinyl walls are usually scrubbable, but the manufacturer's instructions for cleaning should be followed.

Basic rules for caring for wall coverings include the following:

- Use a mild detergent mixed with warm water to clean usual dirt and grime.

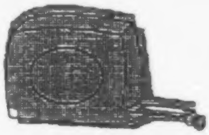
- Use a concentrated solution of detergent with a brush on extremely dirty walls. Rinse the walls with water to remove residue.
- Remove ink, lipstick, crayons, and other such marks on vinyl with rubbing alcohol. Use a degreaser type cleaner for other types of wall coverings. Degreasers are available where wall coverings are sold.
- Read the manufacturer's instructions regarding care for a wall covering.

Measuring and Installation. An interior design assistant may have opportunities to help measure for wall coverings or estimate the amount and cost of wall coverings needed by a client. A place of employment may sell wall coverings and apply them for clients.

A person needs skill and experience to determine the exact amount of wall covering needed. This amount is affected by several factors. The amount of wallpaper needed to cover an area depends upon the wallpaper pattern, cutout spaces for doors and windows, waste, and the method of hanging. Two experienced paper hangers may use different amounts of the same wallpaper to cover the same area because their techniques are different. The paper hanger usually determines the amount of wallpaper needed.

Many customers who buy wall coverings for their homes prefer to apply or hang the coverings themselves. New, flexible materials have many features that make them easy to install, and wallpapering and painting interiors have become popular do-it-yourself projects. People who decide to apply wall coverings themselves need assistance in determining the amount to buy. Many businesses that sell wall coverings provide this help.

Proper measuring for a wall covering saves the business money and time. The proper measurement of a wall prevents having too much or too little wall covering for an area. Accuracy is extremely important.



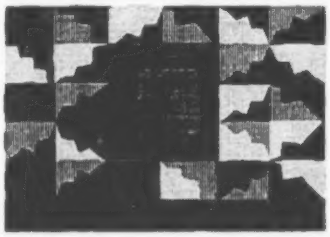
Measuring for wall coverings includes measuring for rolls, murals, panels, and borders. To measure for roll wall coverings, follow the steps in Figure 10.2.

If wall covering is to be used on a ceiling, the amount needed usually can be figured by measuring the floor area. In most cases, the floor area is identical to the ceiling area. The length of the room should be multiplied by the width to get the number of square feet in the ceiling. The total number of square feet should be divided by 25 to find the number of rolls needed.

Packaging - Today, wall covering is primarily manufactured in metric rolls. Each single roll (designated by the symbol s/r) of metric wall covering contains 28 square feet of paper. When actually figuring the amount of wall covering needed, it is safer to allow 25 useable square feet of paper per roll. This allows enough for waste. Metric coverings are usually 20 1/2" or 27" wide. The are packaged in double and sometimes triple rolls. Triple rolls are only used for expensive screen print wallpapers.

Although most wallpaper is packaged in double rolls, it is always priced by the single roll. A double roll, or bolt, is a continuous roll containing the equivalent of two single rolls of paper. These rolls cannot be split. Some manufacturers of the expensive screen print wallpapers will sell a single roll of wallpaper but will charge a cutting fee.

The ***run number***, or dye lot number, is very important. Every roll for a specific project should be from the same run number so that they will match. One dye lot is mixed for printing a group or job of papers called a run. Each run is given its own number for identification purposes. Dye lots may vary in wallpaper just as they do in fabrics.



Murals may cover 7 to 16 feet of horizontal or side-to-side wall space. The size of the room and unbroken wall areas determine the size of a mural. Walls to be covered with murals should be measured individually. It is wise to make a rough sketch of all four walls with all measurements noted. This sketch can help the client and decorator select the mural. You must know the width of each mural panel and the number of panels in a set to decide whether a particular scene or decoration will fit in the available space. Clients may choose to place a mural on one wall and cover the other walls with paper that matches the background color or texture of the mural.

Borders are mostly sold in 15-yard bolts. The more expensive brands of borders are sold by the running yard. The are designed to be used as trimmings at the top of the wall, under a decorative crown molding, above a chair rail, or above the baseboard.

Measuring for Wall Coverings

1. Measure the walls around the room.

2. Total the running feet (distance around the baseboard). For example, the linear footage of a 14' x 23' room would be added as follows:

   14 + 23 + 14 + 23 = 74 running feet

3. Measure the height of the room. Most wall coverings are applied from baseboard to ceiling. In some homes that have unusually high ceilings, there is a molding on the wall 1' or more below the ceiling. If the client wants the wallpaper to be applied to this molding, measure to the molding.

4. Multiply the running feet of the room by the height to find the total number of square feet. For example, the ceiling height of a room is 8' and the room measures 14' x 23'. Multiply the running foot figure of 74 by 8 to determine the number of square feet of wall space.

   74 x 8 = 592 square feet

5. After figuring the number of square feet, determine how many standard European or metric rolls of wallpaper are needed. One single roll contains 25 square feet of useable wallpaper. Divide 25 into 592 square feet to find the total number of rolls needed.

   592 ÷ 25 = 23.68 (round up to 24)

   Twenty-four rolls should be ordered. It is better to estimate a higher amount than to estimate too closely, since there can be some waste in cutting.

6. The number of doors and windows in a room influence the number of rolls needed. Subtract one roll of wallpaper for every two doors or windows of average size. Some businesses that sell wall coverings have a tabulated chart which shows amounts of wallpaper needed for certain sized rooms. If the pattern repeat of the wallpaper is 18 inches or larger, rolls should not be subtracted.

7. Multiply the number of rolls needed by the price per roll to determine the cost of wall covering. For example, 24 rolls priced at $15.95 per roll would cost $382.80.

   24 x $15.95 = $382.80

⇨ Figure 10.2

Adhesives - There are several ways to attach wall coverings to a wall. Manufacturers always specify on the roll of wall covering the type of adhesive that should be used. Fabrics and grass cloths require a nonstaining cellulose paste. Vinyls should be attached with a vinyl adhesive.

Prepasted wallpapers are coated on the back with a dehydrated paste. Strips of the paper should be soaked in water to activate the paste. Prepasted papers are used most often in residential settings. These papers tend to be less expensive than other types.

A person can remove a strippable wall covering from a wall by prying up one corner of the paper and pulling to take the whole strip off the wall. The top layer of peelable papers peels away from the bottom layer. A person must soak the bottom layer with water to peel it off or sand it to make it smooth.

Most machine-printed wall coverings are pretrimmed at the factory and are ready to hang. Pretrimmed means the selvages or edges have been trimmed off. With other types of wall coverings, such as silk-screened wall coverings, a person must have the outer edges trimmed off before the paper can be hung.

Before hanging any wall covering, the walls must be sized. ***Sizing*** is a liquid that is applied to the walls after they have been sanded. The sizing seals the wall and reduces the absorption of the paste. Smaller amounts of paste will be needed after the walls are sized. Sizing provides tooth, a slight surface for good adhesion, that is similar to the tooth needed for painting.

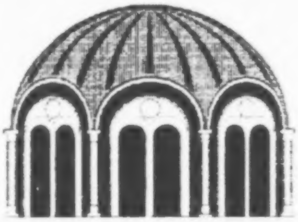
◆ ***Essential Questions:*** ◆

Wall Treatments

1. What is the difference between latex and oil-based paints?
2. What factors should be considered when selecting paint?
3. What is primer?
4. What is the purpose of sizing?

CEILINGS

Centuries ago, ceilings were designed to be very elaborate. Michelangelo, a famous Italian sculptor, painter, architect, and engineer during the Italian Renaissance, created a great painting on the ceiling of the Sistine Chapel. Also during this time in history, ceilings were coordinated with wall designs and were fabricated out of carved or molded plaster. The ceiling helped to set the character of the room as well as the furniture and accessories that should be used. In the eighteenth century, plain ceilings came into style though some still wanted decorative ceilings. During the late 1900s (and still today), people have had a renewed interest in creating unique ceilings that contribute to the mood or character of the room rather than being simple and unadorned.



One can define a basic or standardized ceiling as flat, eight feet high, finished with gypsum board or plaster, and white or neutral in color. The reason that this typical stereotyped ceiling is often used especially in

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contract or commercial applications is because it is inexpensive to build and still performs all the basic functions of a ceiling. These functions are to provide shelter from the weather, aid in heating and cooling, provide a place for lighting, and help absorb sounds. Another advantage of a stereotyped ceiling is that it is economical in regard to heating the space.

Ceiling heights are determined so as to provide adequate airflow, headroom, and economy. The minimum ceiling height for a main or upper floor is eight feet high. The minimum ceiling height for a lesser-used space, such as an attic or basement, is seven feet high. To create certain moods in a room, a ceiling could be raised or lowered.

The late 20th and early 21st centuries have seen a revival in taller ceilings. Many homes are being built with nine-foot ceilings in the secondary rooms (bedroom, bathrooms, etc.) and 10 foot, 12 foot, and higher ceilings are being used in primary spaces (living or family room, dining room, and kitchen). One reason that taller ceilings can be used today is because manufacturers of HVAC (heating, ventilating, and air conditioning) systems are creating newer units to be much more energy efficient than older models. Ceiling fans also help to distribute air. Centuries ago, taller ceilings were fine in the summer months because the warm air would rise leaving the cooler air at the floor level. However, in the winter months it was hard to heat the rooms because all of the warm air would rise to the ceiling.

Variations in shape and direction can add more interest to ceilings. Some of these possibilities are dropped, gabled or cathedral, shed, coved, domed, tray, and coffered ceilings.

Dropped ceilings are lower than the remainder of the ceiling area so as to emphasize or define a certain space.

Gabled or cathedral ceilings increase the apparent volume of a room. These ceilings have two identical sloping sides that form a triangle on two ends.

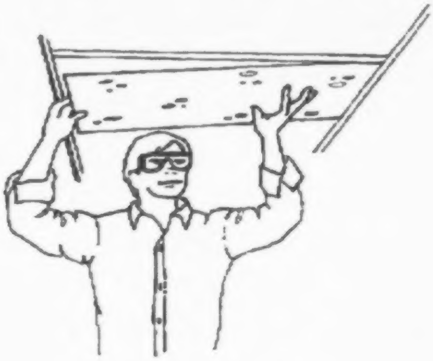
Shed ceilings are single sloping, which calls attention to the highest and lowest levels in the room. This ceiling is quite dramatic.

Coved ceilings are where the walls and the ceiling flow into each other by means of a curved surface.

Domed ceilings are not unlike a coved ceiling except that they create a half or partial circle.

Tray ceilings are flat in the center with the edges of the ceiling angling out and down to the walls.

Coffered ceilings have a great deal of visual weight and rhythm. They are primarily wood paneled and are made by closely placing small beams at right angles. The center of each square is recessed or sunken with decorative wood moldings used to add ornamentation on the inside.



Materials used on a ceiling can have an affect on the overall look and feel of a room or space. Wallboard and plaster are the two most commonly used materials because they are easy to apply and inexpensive to purchase. These materials can, however, be made to look more dramatic by altering the colors from neutral, by adding texture, and through faux finishing (simulation of other materials).

Ceiling tiles are available in many patterns and sizes. These can be sound absorbing or acoustical tiles. Ceiling tiles are mainly used in contract applications since they are not as attractive to the viewer but provide the advantage of reducing noise at its source. They can be used in a home where the ceiling has an unattractive surface. Some ceiling tiles come with a foil backing that helps cut down on cooling costs. Rhythm through repetition is seen in the framework for the ceiling panels, which establishes a grid-like pattern.

Wood is used on ceilings to add a natural look to a room. The wood can be applied in the form of planks, strips, or panels. It can be painted to brighten a room or can be left natural or stained. Less care over the years will be needed if the ceiling is stained or left natural.

Stamped metal ceiling tiles, strips, or sheets can add a textural effect to a ceiling. These ceilings, which were popular in the late 19th century as a replacement for ornamental plasterwork, are being manufactured once again. They are available in the following sizes: 1' x 2', 2' x 4', or 2' x 8'. Contemporary metal ceilings, which come in polished aluminum, bronze, or brass, are also manufactured.

Mirror is another material that is sometimes used as a ceiling material. Mirrored ceilings reflect light well. A mirrored ceiling can help a small space look larger through the illusion of height.

Fabric is another material that is occasionally used on ceilings. It helps make a space seem warmer, cozier, and adds softness to the room as well as diffusing and softening the light.

Color and texture can also have an affect on a ceiling. An extremely tall ceiling can be made to look much lower just by painting the ceiling a dark warm color. If the ceiling seems too low, it can be altered with a light cool color to make it recede or move back. The reason that white is generally used on ceilings is because it reflects the light well and does not interfere with the appearance of height. Also, a ceiling generally has a fine texture that keeps it from being too heavy overhead and aids in reflecting and dispersing light.

◆ *Essential Questions:* ◆ *Ceilings*

1. What are the functions of ceilings?
2. How can ceilings be made more attractive?
3. How does color used on a ceiling affect the room?

Chapter Highlights

☆ The materials and finishing treatments chosen for the walls and ceilings can greatly affect the unique individuality of each person's interior environment.

☆ The load-bearing walls support the ceiling or roof of a building in addition to their own weight. Nonload-bearing walls do not support extra weight.

☆ The type of materials selected should be determined according to the function and decoration of the home and room because wall treatments can enhance the function of a room.

☆ Wood naturally has many properties that make it a superior wall choice. It is an excellent insulation material and is more efficient than brick, stone, steel, and aluminum.

☆ There are many advantageous qualities of masonry products. Masonry is extremely durable and is not affected by insects, fire, or moisture. It can be manipulated with tools to have curves or angles. Masonry can be laid in various patterns, some simple and some very complex.

☆ Brick, one of the oldest of man-made building materials is still used primarily in exterior wall construction. Because brick is fireproof and weather resistant, it is also used for fireplace walls and hearths.

☆ Numerous types of stone can be used in wall construction or as a veneer, but limestone, marble, granite, and slate are most commonly seen in walls and fireplaces.

☆ Walls made of concrete for home construction are often in the form of concrete block. However, in certain parts of the country builders are using poured concrete walls in residential application. Currently, concrete blocks are seen mostly in commercial buildings and schools.

☆ Treatments used to finish and decorate walls include paint and wall coverings. Paint is the most common type of wall treatment used in homes. The next most common treatments are wallpaper and wall coverings.

☆ Since walls make up the largest area in a room, wall treatments must harmonize with the overall decorating theme and with the size and shape of a room. Walls should complement the furniture and accessories in a room.

☆ Paint is a popular wall treatment. It is the most inexpensive way to change the environment. It can be used to alter the appearance of a wall, change the mood and atmosphere of a room, and enhance the psychological perceptions of a room.

Chapter Highlights, Cont'd.

- Wall coverings are available in many different patterns. They include coordinated or companion floral patterns, toiles, paisleys, damasks, geometric patterns, scenic patterns, and murals.
- Ceiling heights are determined so as to provide adequate airflow, headroom, and economy. The minimum ceiling height for a main or upper floor is eight feet high.
- Variations in shape and direction can add more interest to ceilings. Some of these possibilities are dropped, gabled or cathedral, shed, coved, domed, tray, and coffered ceilings.

Chapter 11

Floors and Floor Coverings

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

- 2A Analyze characteristics of materials and workmanship in relationship to durability and use.
- 2C Explain labeling requirements and appropriate procedures for the care of various furnishings.
- 3C Describe trends in materials, accessories, lighting, and space utilization.
- 3G Identify characteristics of types of flooring in relationship to design and construction.

Chapter Vocabulary

agglomerate
Axminster weaves
bonnet method
broadloom
carpet tiles
ceramic tile
ceramic mosaic tiles
conifers
Delft tiles
density
depresssions
dry extraction method
extraction or steam cleaning
fading
flat grained
foam cleaning
hard surface coverings
hardwoods
heat setting
inlaid method
Jacquard mechanism
knitted carpets
laminated wood
linoleum
marble
Mexican tile
onyx
parquet
pilling
plain sawed
poultice
poured floor
quarry
quarry tile
quarter sawn
random plank
resilient
resilient surface coverings
rippling
rotogravure
rug
shedding
sheet vinyl
soft floor coverings
softwoods
staple yarns
strip flooring
terrazzo
travertine
tufted carpet
twist
velvet weave
veneer
verdigris
warp yarns
wear layer
weft or shot yarns
Wilton weave

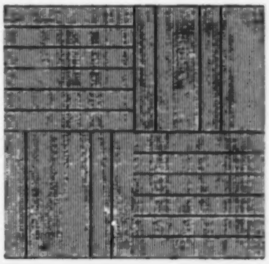
Of all the furnishings in a room, the floor receives the most abuse. Dirt and spills are rubbed in it. Heavy furniture is moved across it and placed on it. Floors should be durable, but they also need to be attractive and fit into the color scheme of the room and home. The type of flooring for a room should be chosen according to the use of the room. Other considerations include the amount of maintenance the flooring requires, the amount of time an individual has to spend to maintain the floor, and the overall look desired.

The floor is one of the largest areas in a room to be decorated. It contributes a great deal to the room's color scheme, and it consumes a large part of the decorating budget. The floor covering sets the mood in the room. Floor coverings of different colors, patterns, and textures create many different effects. In developing a new color scheme for a room, a person should begin with the floor and work up. If existing furnishings and accessories already determine the color scheme, the floor covering should harmonize with this color scheme.

FLOORING

Many types of floor coverings are used today. The three major categories of flooring are soft, hard, and resilient.

Soft floor coverings include area rugs, Oriental rugs, antique rugs, and indoor or outdoor carpet made from natural or manufactured fibers. They absorb sound and can reduce heating and air conditioning costs due to their insulating factors. The fibers, textures, and construction are important for determining quality and price. ***Hard surface coverings*** include wood, ceramic tiles, terrazzo, brick, slate, and marble. ***Resilient surface coverings*** include asphalt tile, vinyl, cork, and rubber. A fourth category that has become increasingly popular is the formed-in-place or ***poured floor***. This floor is made of a binding material that can be pigmented or inlaid with decorative objects such as coins, sequins, rocks, or other flat objects. Each of these types of flooring has special characteristics that help determine its use.



Example of Parquet Flooring

Smooth-surface floors include hard surface, resilient, and poured flooring. They are usually very durable, stain resistant, and easily cleaned. Smooth surface floors may show soil more readily than soft flooring. They also amplify sounds, are nonabsorbent, and can be very slippery.

Wood Flooring

Wood is the most popular hard surface floor covering. It has been used since ancient times for flooring. Solomon, king of Israel, built a temple which had a floor made of fir. The Romans used stone as flooring on the main floors, and wood was used on the upper floors. Floors in peasant homes were dirt covered with straw.

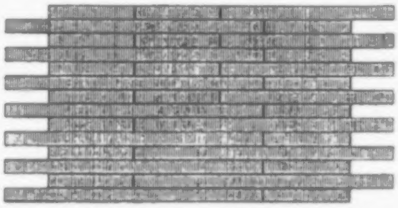
Wood can be divided into two broad categories. The ***hardwoods*** are from deciduous trees. Deciduous trees are those which lose their leaves in the winter. Examples of hardwoods include oak, maple, and birch. The ***softwoods*** come from ***conifers*** or evergreens, which have their leaves all year. Examples of softwoods include pine, fir, cedar, redwood, and spruce. Hardwood is more durable than softwood.

Because wood is a natural material, it absorbs or eliminates moisture depending upon the level of humidity to which it is exposed. Drying wood with a kiln is a process used to control the moisture content in wood. The majority of the shrinkage or swelling of wood occurs in the width. The amount of shrinking or swelling depends on the cut of the wood.

There are three basic methods of cutting lumber. One is called ***plain sawed*** which is used for hardwoods and ***flat grained*** is used for softwoods. The other cut is quarter sawn used for hardwoods or edge grained used for softwoods. Each method of cutting gives the wood a different appearance. Plain sawed is the cheapest, easiest, and the most economical. ***Quarter sawn*** woods offer the least amount of distortion. With this method, the wood is sliced in quarters lengthwise showing the grain of the wood to its best advantage. Quarter sawn provides the least amount of distortion of the wood from shrinkage or warping. Examples are shown in Figure 11.1.

Veneer is a thin sheet of wood that varies in thickness from 1/8 to 1/100 of an inch. Veneers are used in laminations and in furniture. ***Laminated wood*** is used for some floors and furnishings. To make laminated wood, sheets of veneer are laid on top of each other. The better sheets are used on the top layers. Water-resistant glues are used to bond the layers together. The layers of woods are then placed in a hot press under pressure. This heat permanently sets the glue and bonds the layers together.

The three most common types of wood floor designs include strip flooring, random plank, and parquet. ***Strip flooring*** consists of long narrow boards placed side by side. ***Random plank*** floors are composed of boards ranging from three to twelve inches wide placed randomly. ***Parquet*** is made of short strips of wood laid in geometrical patterns. These patterns can be placed in designs such as herringbone, checkerboard, basket weave, or any custom design. Examples of these wood floor designs are shown in Figure 11.2.


Example of Strip Flooring

Standards for the quality of wood flooring have been established by various organizations including the Maple Flooring Manufacturing Association, the National Oak Manufacturers Association, and the National Bureau of Standards. Wood flooring is rated on appearance, length, and the number of imperfections.

Most wood floorings are available with a factory-applied finish. These finishes are very durable and are considered superior to on-the-job finishes because finishing conditions can be controlled more accurately at the factory.

Wood floors are very flexible and fit many decors. They are available in many patterns, finishes, and styles. They can be installed over concrete or wood making the potential for their use unlimited. Wood floors do require some special care, but they are long lasting and attractive.

Wood floors can add an unusual and warm finish to a home. General cleaning can prolong the life of these floors. Grit is the main problem with maintenance. Grit can be removed easily with a dust mop, vacuum, or broom. If the floor needs to be waxed, a thin coat of wax should be applied and allowed to dry before a buffer is used. Old wax tends to hold dirt and grease. This old wax should be removed periodically with a special wood-floor wax remover. Food spills can be easily wiped up with a damp cloth.

Methods for Cutting Lumber

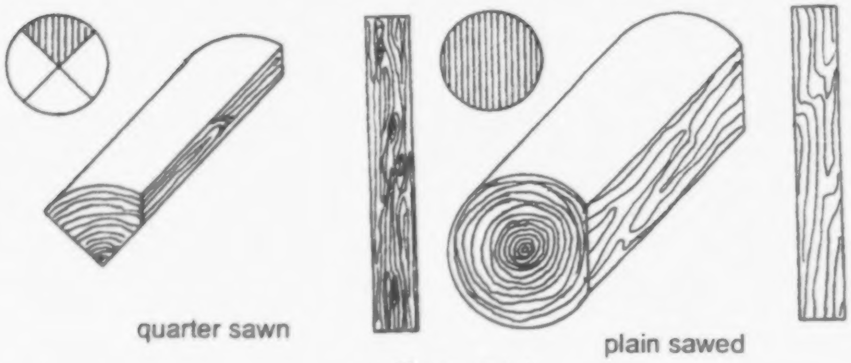
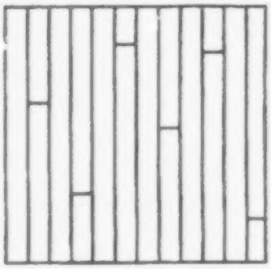
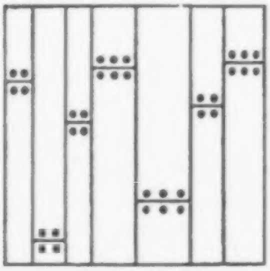

quarter sawn
plain sawed

Figure 11.1

Flooring


Strip Flooring


Random Plank Flooring

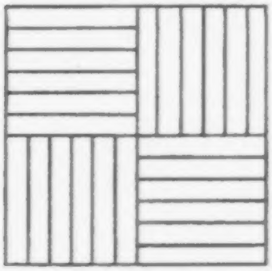

Parquet Flooring

Figure 11.2

A paste wax can be used on most factory-finished or prefinished wooden floors to renew the finish. Floors with polyurethane finishes should not be waxed. The manufacturers of these products have special cleaning and refinishing materials available for their specific types of flooring.

Stone Flooring

Marble is the most ancient of all finished materials used today. The marble industry came of age during the Roman Empire. ***Marble*** is used to describe a type of flooring that is composed predominantly of one or more of the following minerals: calcite, dolomite, or serpentine. There are hundreds of varieties of marble. The colors of marble vary depending on the area of the world they are quarried. A ***quarry*** is an excavation or pit usually open to the air from which stone, such as marble, is obtained by cutting or blasting.

The largest amount of marble is formed from the recrystallization of limestone. This marble is usually white but may have streaks of clouding in it. Another group of marble is the ***onyx*** marbles. These may have layers of different colors. The third type of marble is the ***verdigris***. The name applies to marbles that have a prevailing green color.

Even though marble is a very strong material, there is 50 percent or more breakage at or in the quarries. These broken pieces are used to make ***terrazzo*** tiles. Terrazzo was used quite often during the Italian Renaissance. These marble chips of similar size are combined with a binder to hold the chips together. Terrazzo is very beautiful flooring available in several marble chip colors. It is relatively inexpensive and, if properly maintained, will last a long time. ***Agglomerate*** tiles are made from broken pieces of marble of various sizes.

Travertine is porous limestone that can be used on floors as well as walls. The limestone comes from mineral springs that cause the limestone to be porous. The holes in the limestone are a result of escaping gas. When used on the floor, these holes are filled with a resin that may or may not be the same creamy color as the travertine.

Marble floors and travertine floors are durable, relatively easy to maintain, and often installed in beautiful colors and designs. They basically require the same type of maintenance. They should be cleaned with a mild detergent and water. As with wooden floors, grit is a problem with the general maintenance of marble and travertine floors. These floors should be swept regularly to help alleviate this problem. After the floor is cleaned, it should be thoroughly rinsed with clean water. If there is any residue left, it can make the floor very slippery. Because stones and hard surfaced materials are porous to some degree, they should be protected from oil and water stains.

Marble and terrazzo require little protection from wear or moisture. They do not require protection from absorption and wear. A penetrating sealer should be applied as needed. The manufacturer's directions should be followed closely.

Most old stains require the use of a poultice to remove them. A ***poultice*** consists of white flour or white chalk wrapped in white tissue paper or a cloth. This is soaked in the proper solution for the stain to form a paste. This is applied to the stain for a certain period of time. A person should be careful when removing the poultice to avoid scratching the marble surface. The floor should be rinsed and dried with a chamois. Commercial cleaners that can be used also are available. Sealing marble properly when it is installed is the key to keeping it looking its best.

To remove stains such as coffee and tea, the poultice should be soaked in hydrogen peroxide or household ammonia and then applied to the stain. Other stains, such as rust and oil, require special mixtures to be removed. It is important to check the manufacturer's instructions before attempting to clean any problem area.

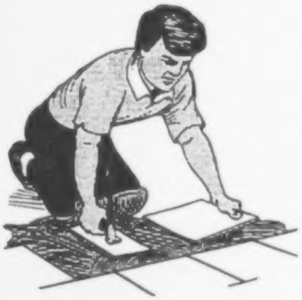
If terrazzo has no cracks and is sealed properly, it will stand up very well under exposure to moisture and in heavy traffic areas. Terrazzo is subject to damage if alkaline or acid cleaners are used on it. It does stain easily and if an unsuitable wax is used, it may become somewhat yellowed.

Floor seals are available in two types: penetrating seals and surface seals. Penetrating seals are used on wood and concrete floors. Because they permeate the pores of the wood or concrete, they add to the hardness and durability of the flooring. The surface seals are thinner and form thin, clear films that protect the surface.

Terrazzo requires a sealer that must be rubbed in. The pores are not as open as wood or concrete and do not absorb as quickly or as well. Terrazzo discolors unless a colorless sealer is used.

Tile Flooring

Ceramic tile is made of baked clay. It can be glazed or unglazed. These tiles are used for floors, walls, and counter tops. Archaeologists have been able to determine that the use of ceramic tile originated in Egypt about 4700 BC. It was one of the most durable materials used by ancient civilizations. Today ceramic tiles are made by the dust-pressed method. To form the tiles, certain amounts of clays and other ceramic materials are forced into steel molds under heavy pressure. Ceramic tiles are named after the city or areas from which they originate. ***Delft tiles*** originated in the town of Delft in Holland. They are known for their blue and white designs.



Ceramic tile is generally easy to keep clean, but it occasionally may have some stubborn stains. A mild detergent is good to use on a regular basis, but a mild abrasive cleaner usually removes stains.

A mixture of abrasive cleaner and hot water works well to remove grouting discoloration. The floor should be washed first while it is still damp and the mixture should be applied with a paint brush. After twenty-four hours, the grout can be scoured with a stiff brush.

Ceramic mosaic tiles are small. The individual tiles are mounted on a sheet to help keep them together and to make installation easier.

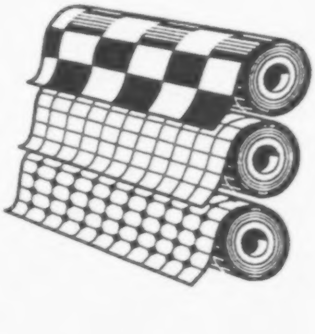
Mexican tile is made from clay taken directly from the ground. This clay is shaped by hand into forms that result in uneven thickness. The unique characteristic of the Mexican tile is that the proportions of the ingredients in the clay are not measured. These are left outdoors to be dried in the sun before being taken to the kiln. It is not uncommon to find prints on the surface of the tiles. Leaf prints, animal prints, and other prints may find their way to the tile surface before it completely dries. These are part of the slight imperfections characteristic of the tiles.

Quarry tile is becoming more and more popular. It is often found in kitchens because it was fired at high temperatures that allow it to withstand endless high-pressure and hot steam cleanings. After installing quarry tile, a sealer must be applied.

Quarry tile is very strong with colors that vary from warm brown-reds to warm beige. The color depends on the geographical location where the quarry is mined. Food spills will not affect its surface. If sealed and polished, it can be very attractive.

Vinyl Flooring

Linoleum was invented in 1862 by an English inventor attempting to create artificial leather to be used for bookbinding. For many years it was the only resilient flooring available. ***Resilient*** refers to smooth-surfaced materials that spring back or have cushioning, yet are relatively hard and durable. Sheet vinyls have replaced linoleum. Many people still call sheet vinyls "linoleum" even though linoleum ceased to be manufactured in the United States in 1974. However, current trends are leading linoleum tiles to be manufactured again.

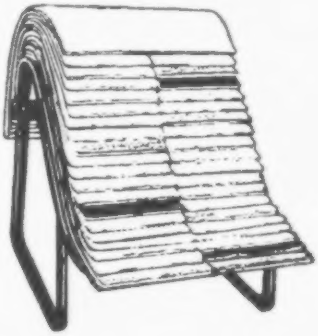


Sheet vinyl comes in widths of six, nine, or twelve feet. It is manufactured in one of two ways: rotogravure or inlaid. The ***rotogravure*** process is a combination of printing and photography. It is made by use of a photosensitive top layer upon which a pattern is printed photographically. This layer is then covered with a clear vinyl coating called the ***wear layer***. The pattern is only one layer thick. The ***inlaid method*** uses colored vinyl chips arranged in a pattern. The chips are then fused together with heat and pressure. This process results in color and pattern that are inlaid throughout the vinyl. It is more expensive but more durable.

Carpeting

The first carpet mill was established in 1791 in Philadelphia, Pennsylvania. The invention of the power loom in 1841 was the most important contribution that the United States made to the carpet industry.

The Carpet and Rug Institute states six primary functions of carpet in the Carpet and Rug Institute's Specifier's Handbook. These functions are acoustical, beauty, atmosphere, thermal insulation, safety, and comfort. These functions are explained in Figure 11.3.



When selecting carpeting for residential use, there are three factors that are probably the determining reasons why people choose carpeting. These factors include color, comfort, and cost. In contract and institutional

The Six Functions of Carpet

- **Acoustical.** Carpet absorbs ten times more airborne noise than any other flooring material and as much as most other types of standard acoustical materials. It virtually eliminates floor impact noises at the source.

- **Beauty.** Carpet provides a tremendous choice of colors, textures, and designs to suit every taste. Custom-designed carpet for commercial installation is also available at reasonable prices. Carpet has a way of framing the furnishings in a room or office that makes them look more important and distinctive.

- **Atmosphere.** Carpet dramatically enhances the feeling of quality in interior design—a major consideration in hotels and motels. Carpet also has the ability to "de-institutionalize" a building—a significant factor in improved patient morale in hospitals, and in student attitudes in school.

- **Thermal Insulation.** Physically, the pile construction of carpet is a highly efficient thermal insulator. Mechanical demonstrations have shown that over a cold cement slab, carpet's surface temperature is substantially higher than that of hard surface tile. Thus, carpet relieves coldness at foot and ankle levels and lends psychological warmth as well.

- **Safety.** The National Safety Council reports that falls cause most indoor injuries. Carpet's ability to cushion falls and prevent serious injuries means savings in medical costs, and man-hours to businessmen.

- **Comfort.** Carpet reduces "floor fatigue." This characteristic is important to salespeople, teachers, nurses, wait staff—all those who spend many hours on their feet during the course of their work.

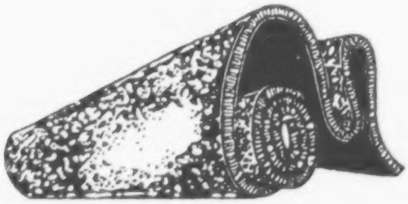
Source: Carpet and Rug Institute. *Specifier's Handbook.*

⇨ ***Figure 11.3***

situations, the determining factors for carpeting choice are durability, traffic, cost, and ease of maintenance.

Three factors are important for a consumer to know about carpet construction and quality. These factors include ***density*** (the amount of face yarn), ***heat setting*** (setting the twisted yarns by heat or steam), and ***twist*** (the rotating or spiraling of the yarn around itself).

Density can be determined by bending the carpet sample and noting how close the tufts are to each other. The denser the tufts, the better. The backing of the carpet should hardly be seen while bending the carpet sample. If there are wide spaces between tufts, the density is low and the quality may be lower than a carpet with little space between tufts.



The labels on the carpet samples specify the type of setting used to heat set the twists of manufactured carpet fibers. Heat settings are usually better than steam settings. The quality of the twist can be judged by looking at the cut ends of the carpet. The ends should be twisted and frayed.

Many people believe that carpet raises prestige and promotes a positive impression. In judging the quality of a carpet, a common rule is that the deeper and the denser the carpet, the better it is.

It is important to remember that this rule is a general rule which may have exceptions. In luxury carpets, for instance, yarn depth and weight may offset density. Some carpets are now made from manufactured yarns which are extremely durable, yet very lightweight. The backing used on carpet greatly influences quality. A firm, closely woven backing holds yarns more securely than a loosely woven backing. As a person works with carpets and rugs, it becomes easier to determine quality features.

The Textile Fiber Products Identification Act requires that all manufacturers label their samples showing the generic name of their face fibers and the percentage used of each. The Federal Trade Commission's registration number or the manufacturer's name and the country of origin also must appear on the label. Additional labels may appear on the sample describing special warranties, carpet features, backing information, and cleaning suggestions.

All rugs and carpets must pass flammability tests. These tests ensure that the carpets do not contribute to the spreading of fire from a small source of ignition.

The fibers of carpets produce various effects. The most popular natural fiber for carpeting is wool. Wool is the fiber of sheep. Natural fibers are proteins and therefore need special attention. Some basic facts regarding wool are listed in Figure 11.4. A woolmark is a label or symbol that is given to the best quality wool products by The Wool Bureau, Inc. The woolmark is recognized around the world for its indication of first-rate products.

There are also many man-made fibers that are used in manufacturing carpet, such as nylon, acrylic, polyester, and polypropylene or olefin. The most popular of these man-made fibers is nylon. More nylon is used in residential and contract applications than any other fiber. In fact, DuPont introduced nylon in 1938 and today almost 90 percent of all carpeting sold is nylon. There are several different types of nylon manufactured. Some

What Do You Know About Wool?

✔ Fibers can be bent 20,000 times without breaking.

✔ Wool can be stretched 25 to 35 percent of its length without breaking.

✔ Wool is wrinkle resistant.

✔ Fibers absorb up to 30 percent of their weight in moisture without feeling damp. Wool absorbs dyes well and feels warm.

✔ Wool is naturally flame resistant. The structure and vapor content of the fiber enable it to self-extinguish.

✔ Wool is the fiber least damaged by mildew.

✔ Some people are allergic to wool fibers.

✔ Moths attack wool. All wool must be mothproofed before it can be given a woolmark.

⇨ ***Figure 11.4***

of these yarns are better at resisting soil than others. In general, nylon absorbs very little water because it is a synthetic fiber (chemically-produced fiber). So, stains stay on the surface of the carpeting rather than being absorbed into the yarns. This allows nylon carpeting to be cleaned more easily than many other fibers. Nylon has a great deal of strength. It resists wearing as long as dirt and soil are vacuumed up regularly.

Carpeting is available in basically two forms: wall-to-wall and rugs. The most popular type is the wall-to-wall carpeting that is used to cover all of the floor space in a room. Carpeting is most often manufactured in twelve-foot widths but can be found in eighteen-foot widths. A ***broadloom*** is a carpet that is seamless and more than fifty-four inches wide. A ***rug*** is distinguished from carpet in that it is finished on all sides and is not attached to the flooring below.

Most carpets today are woven or tufted. Woven refers to a rug or carpet that is made by some type of weaving process. The process is usually done on a loom. Some oriental rugs are still made completely by hand. The common characteristic of woven carpets is that pile yarns, or face yarns, remain on the backing material surface supported by anchor yarns. Anchor yarns are the supporting heavy yarns that form the basic foundation or backing of the carpet.

Continuous manufactured strands of yarn that can be made any desired length are called continuous filament yarns. The biggest advantage of this type of yarn is that it does not pill or fuzz. ***Staple yarns*** are yarns cut into short pieces and twisted together to give a textured, less glossy effect. These yarns pill and fuzz, especially in high traffic areas and in the first few months after the carpet is installed.

Before 1946 and the development of the tufting machine, all carpets were woven. Today, almost all carpets are constructed through the process of tufting. ***Tufted carpet*** began as a variation of the hooked rug, of which yarn is pulled through burlap backing. With machines, the pile yarns are inserted with threaded needles into a primary backing. The tufts are then glued to the backing. A second backing can be added for additional body and quality. Tufting is less expensive than weaving and is usually equally satisfactory.

Carpet may be manufactured by four methods. It can be woven, tufted, needle-punched, or knitted. And, carpets need good padding or underlay to provide good wear and extend the life of the carpet.

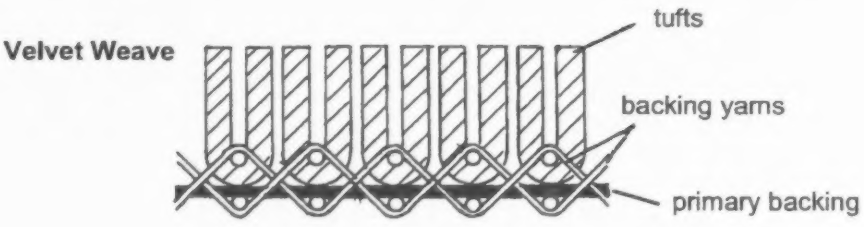
Woven Carpet. Carpets that are woven include velvet, Wilton, and Axminster weaves. A common characteristic of these three carpet weaves is the interweaving of the surface pile with other face and backing yarns, which creates a single material. The velvet weave is the simplest. Carpets made by the ***velvet weave*** are usually solid colors or tweeds with smooth surface pile that may be cut or uncut. ***Wilton weave*** carpets are woven with the Wilton loom, which can be a variety of textures with multicolor patterns or solid colors. This weave has good body, strength, and resistance. ***Axminster weaves*** are made using the Axminster loom and resemble hand weaving. Since each tuft is inserted separately, almost any color combination can be used.

Approximately twenty-five years ago all rugs were woven. Today, less than 10 percent of carpets are woven. Some oriental rugs are still made completely by hand.

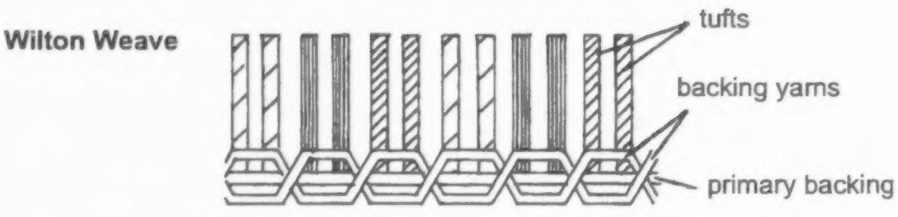
During the weaving process, the face and back of the carpet are formed at the same time by interweaving warp yarns, weft yarns, and other yarns. ***Warp yarns*** run lengthwise and usually consist of chain yarns, stuffer yarns, and face yarns. ***Weft*** or ***shot yarns*** run across the width. The pile yarns are bound while the stuffer and chain yarns are woven to form the backing.

During the velvet weave process, the pile and warp yarns are alternately raised and bound together with the weft yarns. The pile is formed by wires that are inserted between the pile and warp yarns. The wires are withdrawn after a row of loops has been formed over the wire and secured by the weft. Consequently, the height of the wire determines the height of the pile. To create a cut pile, razor edged wires are used to cut the pile as the wire is withdrawn. The velvet weave is not very resilient and has a short pile. It is generally monochromatic with all of the pile cut to the same length. It can be made in a wide range of colors and, if made from good wool that is closely woven, it will wear well. An illustration of the velvet weave is shown in Figure 11.5.

The Wilton weave is named after the city in England where it was first made. This weave produces many patterns and colors in cut or loop pile. It is basically a velvet loom that is fitted with a special Jacquard mechanism. The ***Jacquard mechanism*** uses punched cards, similar to computer cards, which select yarns of various colors. Spools of colored yarn are assembled on racks or frames on the back of each loom. There is one frame for each color. Wilton carpets may be called two, three, four, and five-frame Wiltons depending on the number of yarn colors used. The more frames used, the greater the weight of the carpet and the better the quality. Joseph M. Jacquard invented the Jacquard loom in France in the nineteenth century. The Wilton loom can weave unusual patterns, varied pile heights, or a combination of high cut and low



⇨*Figure 11.5*



⇨ *Figure 11.6*

loop piles. Figure 11.6 shows the Wilton weave.

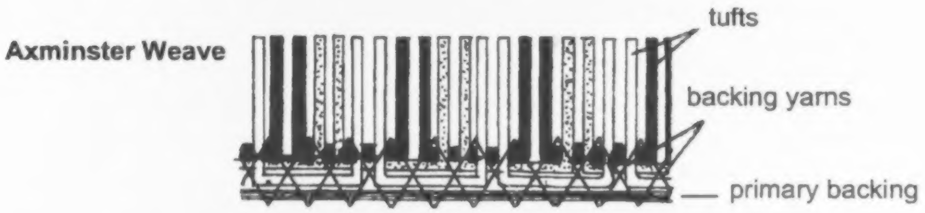
Axminster is the name of the town in England where this type of carpet was first made. The quality of the Axminster weave depends on the number of tufts in each row. This weave draws pile yarns from small spools that are wound with yarns of various colors. They are locked together in a frame that is the same width as the carpet. The most time-consuming part of the Axminster process is the setting up of the loom. This weave can also produce designs. The Axminster weave usually produces a one-level cut pile face, but textured effects can be achieved by using different types of yarn. The Axminster weave is shown in Figure 11.7.

Tufted Carpet. More than 90 percent of all soft floor coverings produced today are made by the tufting process. It was first developed in Georgia during the early 1920s for making bedspreads. The development of the automatic tufting machine came about in the early 1950s making this method of carpet construction economical and popular. These machines, along with manufactured fibers, revolutionized the soft floor covering industry. The tufted weave is shown in Figure 11.8.

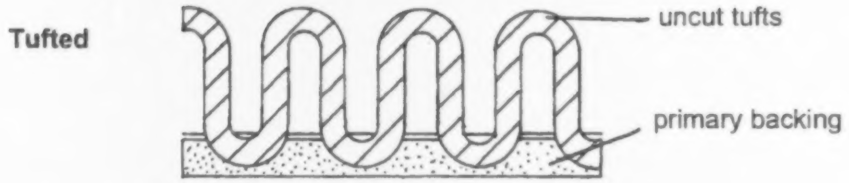
In tufted carpets, the pile yarns are sewn into a primary backing. A second backing can be added for additional body and quality. Tufting is less expensive than weaving, and it is usually equally satisfactory. A variety of textures and color combinations are possible with this method.

The process of tufting is similar to the ordinary sewing machine. Instead of sewing only one row at a time, it may sew more than 1000 rows at a time. The number of rows sewn depends on the style, density, and width desired.

The original tufting machine could only produce solid color, one-level carpet. With advances in dyeing and machine designs, it is now possible to produce multicolored carpets as well as various designs. The ability to vary



⇨Figure 11.7



⇨ Figure 11.8

these designs led to what is known as carpet style. New styles are developed rapidly, but some of the more popular styles include the following:

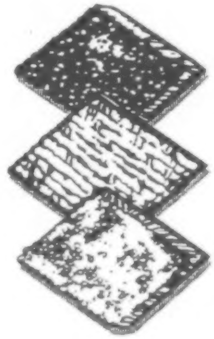
- *Low-level loop* is primarily used for commercial areas, residential kitchens, and indoor-outdoor carpeting.
- *Sculptured carpeting* has cut loops and low-level uncut loops. This carpet is used primarily in residential areas.
- *Plush/Saxony* refers to a high-level cut loop. This carpet is used primarily in residential settings.
- *Frieze* refers to medium density cut loops that are usually made of small diameter yarns that have a hard or tight twist.

The primary backing is the prewoven backing material that is made of jute, cotton, polypropylene, or some other material. The manufactured fiber polypropylene is being used widely as a backing because it does not shrink, mildew, cause browning when too wet, or have any of the other problems associated with natural fibers used as primary or secondary backing. The secondary backing is adhered with a latex adhesive to the primary backing to add strength and weight while bonding the tufts in place.

Needle Punched. The needle-punched method is a relatively new type of construction that was originally used to produce indoor-outdoor type carpet and kitchen carpeting. During this process, a machine combs the fibers. The machine lays the fibers out. The prewoven fabric material is laid between two layers of fibers. This then moves through a needle-punching machine where barbed needles interlock the loose fibers with the prewoven material. Additional fibers are added to the face side of the carpet until a desired weight is obtained. When this process is completed, a layer of foam or sponge rubber is applied to form a secondary backing. The flat, top surface can then be printed, embossed, or cut into tiles depending on the type of design or texture desired.

A characteristic unique to this method is the carpet's lack of pile or tufts. It has a flat appearance. Another characteristic is that a person can actually walk on the sides of the fiber instead of the ends as with other types of carpet construction. This type of carpet is noted for its wear retention qualities, price, and cleanability. Therefore, it is used in many commercial settings.

Carpet tiles or modules range in size from twelve to twenty-four square inches. Most of these are cut from needle-punched carpeting. They are popular in the commercial market for several reasons. They are easy to install on floors with wiring and connections underneath, making later access to these areas much easier. The damaged tiles can be replaced easily. Installation is relatively quick and easy and the decor or floor patterns can be changed to suit the user's needs.



Knitted Carpets. ***Knitted carpets*** are constructed by the interlooping of the pile yarns with the backing in a process similar to hand knitting. Knitted carpets are generally made of solid colors and tweeds. Knitted floor coverings are used mostly for small area rugs because the process is too expensive for most large rugs or carpets.

Most manufacturers produce several lines of carpeting for specific uses and markets. Basically, the lines differ in the quality of construction and type of face fibers that are used. Among the variables that affect quality are the density of the face fibers, the fiber type, the fiber's diameter, the dye quality, the quality and curing of the latex used to hold the face fibers in place, and the weight of and type of backing material applied.

Padding. Carpet padding, often called underlay or cushion, is necessary unless a carpet or rug is manufactured with padding already attached. A good padding reduces surface wear and extends the life of a rug or carpet. It insulates against heat or cold, provides additional comfort, prevents slipping, and absorbs sound. A good padding should be soft but firm. Padding can be made of many materials. They are typically grouped in the following three categories:

- *Felted padding* is made of all horsehair, all jute, or a combination of hair and jute. Felted pads retain odor and are subject to mildew unless treated with a mildew-resistant chemical. These types of padding are not used much today and are not made anymore.
- *Rubber padding* is made of foam rubber or waffled (sponge) rubber. Waffled rubber is more durable than foam rubber. Rubber pads are resistant to moths and mildew and are nonallergenic. The disadvantage of rubber padding is that it may deteriorate with age. Rubber padding is often used under area and accent rugs.
- *Urethane* or plastic foam pads are the newer types of padding made from manufactured materials. They have many of the same general properties as rubber and are resistant to dampness and heat.

All types of padding are made in various thickness and weights. The pad should be chosen in relation to the carpet. A thick, expensive pad can make a skimpy carpet seem denser. A flimsy, inexpensive cushion is noticeable even under a thick carpet. The right combination of pad and carpet is needed. The standard pad used today is the 1/2-inch 8# pad. The pad weight is more critical than the height of the pad for creating a firm feel underfoot. Padding is available in various heights and weights. Common heights are 1/4" (used for contract carpet and berbers), 3/8", 1/2", and 3/4". Padding weights range from 3 pounds to 8 pounds (8#).

◆ Essential Questions: ◆ Flooring

1. What things should be considered before selecting the flooring for a room?
2. What are the advantages and disadvantages of smooth-surface floors?
3. What are the three most common types of wood floor design?
4. What are the advantages of marble and travertine floors?
5. What are the three methods of weaving carpet? What are their characteristics?
6. How do tufted carpet and woven carpet differ?

INSTALLATION OF FLOORING

Helping clients estimate their floor covering needs is a service offered by many stores. Determining the exact amount of floor covering needed is difficult and requires skill and experience. Many factors affect the amount needed, such as the width of the floor covering, patterns that require matching, and irregular room shapes. Because floor covering is expensive, a mistake in calculating the amount needed can be costly. An interior design assistant or sales assistant probably will not have complete responsibility for measuring and estimating floor covering needs. However, an assistant may be asked to help the designer or carpet specialist measure rooms and estimate the cost of floor covering. To do this, an assistant must know how to measure and estimate dimensions.

Floor coverings, such as wall-to-wall carpeting and vinyl sheets, come in rolls and cover the entire floor. The square yardage of a room to be covered with these floor coverings must be known, plus allowances needed for piecing to reach room width or match patterns. The following are instructions used to determine the square yards of floor space in a room or area:

1. Measure all four sides of the room or area. To allow for any projections or irregular measurements, it is better to measure all sides instead of just one length and width.
2. Multiply the longest length by the greatest width to find the number of square feet.
3. Divide the total number of square feet by nine to determine the approximate number of square yards in the room or area.

Hard and Resilient Flooring

Resilient floor coverings are sold in rolls or tiles. Tiles are produced in many sizes, including 6, 9, 12, 18, 24, and 35-inch squares. The most common tile size is 12 square inches. The number of tiles needed is estimated in almost the same way as carpet squares are figured. First, the square feet in an area should be determined. Then, a tabulated chart at the floor coverings establishment should be consulted. This chart indicates how many of a certain size tile should be used to cover a room with a determined square footage, allowing for waste.

Rolls of resilient floorings, such as vinyls, are produced in varying widths, including 6, 9, and 12 feet. Steps for estimating the square yardage needed for floor covering rolls are explained in the soft flooring section. Vinyl floor coverings with designs must be carefully matched, and extra yardage must be allowed for matching.

Various businesses work with a variety of different floor coverings. Services offered to

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clients also vary, as do the exact methods of estimating the amount and cost of floor coverings. Home furnishings assistants are responsible for discovering services offered and procedures used in the place of employment. Whatever procedures are used for measuring and estimating the cost of floor covering, accuracy is essential. Mistakes in measuring can cost a store much money and time.

As with wood flooring, it is important to thoroughly sweep and clean the subfloor before installing resilient flooring. Some resilient floorings may hide or minimize some subfloor irregularities. However, flooring does not hide nail heads, dirt, or grit. Sometimes it is necessary to use a subfloor patching material.

The flooring should be kept tightly rolled with the face of the carpet out until the subfloor has been adequately prepared. The preparation includes cleaning the subfloor, removing all objects from the room, and removing the quarter round (floor molding cut in a quarter of a circle to fit in corners between the floor and wall).

The next step is to align the flooring design on the flooring with the longest straight wall so that the pattern is parallel with the wall. It is sometimes necessary to make partial cuts around protruding walls or other items to allow the flooring to lay flat. The patterns on two different cuts of carpet should be matched at this point. The flooring should be pressed into the floor or wall juncture with a straightedge and the excess should be cut off with a utility knife.

The flooring is attached as soon as possible after fitting it to the room. The areas that are fastened with adhesive are completed first. The flooring is then rolled onto the adhesive with a steel hand roller. Special care must be taken when positioning the seams. All seams must be sealed with the recommended seam sealer and allowed to dry completely. Stapling around the perimeter is recommended on wooden subfloors or wooden subfloors that are covered with old resilient flooring.

Soft Flooring

Many types of floor coverings are available. Carpet is manufactured in rolls with widths ranging from twenty-seven inches to eighteen feet with unlimited sizes available in custom carpeting. Twelve to fifteen-foot widths are the most common. Any length of carpet in standard widths can be bought. Carpeting not wide enough to cover an area can be pieced. Additional information about carpet construction is located in Chapter Seven.

Carpeting is sold by the square yard, although it is shipped in rolls. Some waste occurs in cutting a length of carpet to fit a room. Using the width of the carpet lengthwise in the room can sometimes reduce this waste. Assume that the floor area of a room to be covered is 7 1/2 by 14 feet. If a carpet 15 feet wide was used, only 1 foot would have to be cut off and only 7 1/2 feet of carpet would be ordered.

Carpet also is available in 12-square-inch tiles that have built-in backings. To estimate the number of carpet tiles needed, a person should do the following:

1. Measure all four sides of the room or area.
2. Multiply the longest length by the greatest width to get the number of square feet. Since each carpet tile is 1 square foot, the total number of square feet is approximately the number of tiles needed.
3. Figure the waste allowance and add extra tiles to make up for waste. The floor covering business will probably have charts available with information that makes it easier to figure waste allowances.

◆ **Essential Questions:** ◆
Installation of Flooring

1. What factors must be considered when figuring the amount of floor covering needed?
2. How do you determine the number of square yards of floor space in a room?

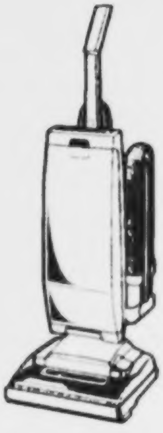
CARING FOR CARPET AND RUGS

Preventive maintenance should begin the day the carpet is installed. The right care can keep carpet looking good for many years. Prompt removal of stains and spills is equally important to the need for regular, careful vacuuming. These two factors prolong the life of a carpet.

General Care

Protective mats at doorways can help prevent soiling. Common household cleaners are good for small spills if cleaned quickly. Shifting the position of furnishings from time to time helps prevent crushing or permanent damage to certain fiber piles.

Vacuuming is the removing of dust and dirt from carpets or hard-surface floors with a machine. Carpet manufacturers recommend that carpet be vacuumed at least once a week. Vacuuming twice a week is preferred. Heavy traffic areas should be vacuumed daily. When soil and dust are not removed, they can work their way down into the pile and create an overall dingy look. Once embedded, dirt particles are hard to remove and will eventually tear the carpet fibers. The key to keeping carpet looking nice is to clean it before it starts showing significant soil. Heavy traffic areas in homes and in a home furnishings store may require vacuuming more often.



There are two types of vacuum cleaners including the upright with a beater bar action and the straight suction or canister type. It is necessary to use the gentlest method which is the straight suction type on wool carpets. The Wool Bureau, Inc. recommends the use of straight suction on all lightweight wool carpets and on cut and loop-type carpet. About once a month, it is good to use the beater bar type of vacuum cleaner.

A pile-lifter vacuum or a heavy-duty upright vacuum with a beater bar or brush do the best job. They raise the pile for cleaning while also removing soil particles not picked up by less powerful vacuums. The brush head should be adjusted to the pile height of the carpet. A procedure for vacuuming is shown in Figure 11.9.

Most oriental rugs, with the exception of the true antiques, are best cleaned with a beater bar type vacuum cleaner. To avoid damaging the fringed edges, lean the vacuum back at an angle and push the vacuum forward off the carpet edge without using backward strokes. This keeps the fringe from being caught in the beater bar. The fringe may be cleaned with a canister type vacuum cleaner, using a floor brush.

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Vacuuming Procedure

Equipment and Supplies
- vacuum

Procedure
- Remove any large pieces of trash or litter.
- Use attachments on an upright vacuum to clean edges near walls and immovable objects, cracks, or crevices, and wall carpeting or above floor areas.
- Choose an electrical outlet that allows the greatest amount of floor space to be vacuumed without having to unplug the machine.
- Begin vacuuming at the rear of the room or area. If an upright vacuum is used, move the machine forward and backward within an easy to reach distance taking no more than one step forward. Fan-shaped movements tend to waste time and energy because of overlapped and missed areas. Move gradually from the back of a room to the exit.
- Clean and store equipment properly. Empty the dust collection bag or bin. Remove paper vacuum bags when full. Remove strings or other items caught in the beater bar brushes. Check belts, cords, switches, hoses, and tools before storing. Report needed repairs immediately.
- Observe the following guidelines when vacuuming:
  - Never pull a plug out of the outlet by the cord. Grasp the plug and pull from the wall.
  - Practice vacuuming around furniture and fixtures without bumping into them.
  - Unplug the vacuum before repairing it or attaching tools.
  - Keep cords near the floor to avoid knocking items off of furniture.

Figure 11.9

Depressions are low places in carpet, which occur when heavy furniture remains in the same place over an extended period of time. Change the location of furniture periodically to help prevent the problem. After moving the furniture, brush the area with fingertips and vacuum to help lift the mashed tufts. After a few days, the tufts should return to normal. If the depression is still noticeable, hold a steam iron two or three inches above the carpet and allow the steam to dampen the carpet while using a brush to raise the tufts. Do not allow the iron to touch the carpet.

Cut pile carpets often shed. ***Shedding*** is the casting off or falling out of a covering. It is normal for loose fibers to be present in all new carpets except a continuous filament carpet. This is basically manufacturing debris left in the pile when the carpet is finished. Regular vacuuming eventually removes these shed fibers.

Pilling happens with certain carpet types or in heavy traffic areas. ***Pilling*** is the little balls of tangled fibers and lint that may appear and can either be pulled off or clipped with scissors.

Fading is the loss of color or brilliance. It eventually happens to most carpeting due to exposure to light and other natural and artificial elements found in the environment. This fading can be delayed by vacuuming frequently, reducing the carpet's exposure to sunlight by closing windows, and changing air filters regularly in heating and air conditioning systems.

Sprouts are small tufts that rise up above the carpet surface. Snags occur when sharp objects hook into carpet and snag the fibers. Like sprouts, these can be clipped off with scissors but should never be pulled.

Shading is a characteristic of certain styles of carpet and rugs. It is not a defect. It is most obvious in cut pile carpets that are deep, dense, and of a single color. One cause of shading is a change in the lay of the carpet pile that causes a variation in the way the light is reflected from the surface. This effect makes the carpet appear lighter or darker in certain areas. One way to minimize the shading effect is to make the final cleaning strokes in one direction.

Excessive humidity, damp weather, or the moving of heavy objects across a carpeted area may cause rippling in carpet. ***Rippling*** is the formation of small waves or folds in the carpet. If it is caused by humidity, it is probably temporary and will disappear when the atmosphere becomes drier. If the rippling persists or becomes worse, a carpet installer can usually solve the problem by restretching the carpet.

Static electricity is caused by the friction of rubbing almost any two different materials together. Most carpets today have some type of antistatic control built in. For those that do not have static control, two methods are useful for reducing static on carpet. One is to introduce moisture into the air by using a humidifier. Another method is to apply antistatic agents to the carpet. Caution should be used when applying antistatic agents because some cause dirt to adhere to treated carpet.

Spot and Stain Removal

Periodic cleaning other than vacuuming increases the life of carpeting. When selecting cleaning chemicals, it is important to remember that the properties of cleaning detergents vary considerably. When dry, some cleaners may leave a sticky residue while others may leave a dry, brittle residue. Products that dry to the brittle state are generally preferable. Most carpet cleaning detergents contain some type of optical brightener to make carpets appear brighter after they are cleaned.

An important property to look for in a carpet cleaner is acidity or alkalinity. This property is measured by pH values. A pH value of 7 is neutral. As the alkalinity (alkalis neutralize acids) rises, the pH level increases. The pH level decreases as the acidity rises. The pH level of detergents ranges from a low of 5.5 to a high of 12. The pH levels of shampoos and foam cleaners range from about 6-10. Hot water extraction detergents have a pH level range of 8-12. Carpet cleaning chemicals with pH levels of 10 or higher can cause dye to bleed and wool and nylon to shrink or discolor.

Blotting or absorbing spills and stains is the key. Spots and stains are easier to remove if given prompt attention. Almost anything spilled on carpet not only stains but attracts soiling if left unattended. To remove spots and stains, first, a spoon or spatula should be used to remove solid material. Liquids should be soaked up with clean towels. Spots and stains should never be rubbed. After an appropriate cleaning solution is selected, it should be applied sparingly. A person should work from the edge of the stain to the center so that the stain does not spread. It is important to remember that rubbing or brushing the areas being treated may cause the carpet to fuzz. Excess moisture should be

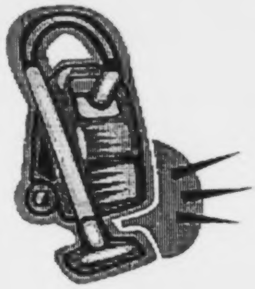
removed with a clean towel and the carpet should be allowed to dry. The carpet should be vacuumed when it is dry.

Most stains become harder to remove when left untreated for long periods of time. Stain removal should not begin until the cause of the stain and the type of carpet is determined. Treating a stain without knowing its cause can result in a worse stain. Procedures for removing specific types of stains are included in Figure 11.10.

Basically, seven cleaners can be used for typical carpet spots and stains. All solutions should be tested on an inconspicuous area of the carpet before the cleaning of a spot or stain is attempted. The seven solutions include the following:

- *Detergent solution* is made by mixing one teaspoon of mild laundry detergent or a colorless dishwashing liquid in one cup of water. A common, all-purpose household spray cleaner or laundry prewash spray also can be used. The solution should be sprayed on or applied with a damp towel. Excess liquid should be blotted up with a clean towel.
- *Paint, oil, and grease removers* that do not contain oil are available from dry cleaning stores, hardware or building supply stores, or carpet cleaning establishments. These should be used sparingly and rinsed with a dry cleaning solvent. A person must move quickly and blot the spot with dry, clean towels.
- *Dry cleaning solvents* are available at grocery stores or hardware stores. Any commercial or consumer brand is good. Directions may vary among brands, so it is important to read the directions carefully.
- An *ammonia solution* consists of one tablespoon of clear, household ammonia mixed with a half cup of water. The spot should be sponged with fresh water and blotted with a clean towel until dry.
- *White vinegar solution* or *sour solution* consists of one part vinegar to one or two parts water. A detergent solution should be applied first, the spot should be blotted with water, and then a final rinse with the vinegar solution should be applied.
- A *bleach solution* consists of one part chlorine bleach and nine to ten parts cold water. A detergent solution should be used first, the spot should be rinsed with water, and then the bleach solution should be applied. Excess liquid should be blotted with a clean towel.

For stubborn stains or large area cleanings, a professional carpet cleaner should be consulted. Access to larger and more powerful equipment, along with experienced personnel, give professional cleaning companies several advantages. Professionals use four types of cleaning methods. They include steam cleaning or extraction, the bonnet method, dry extraction, and foam cleaning.



Extraction or ***steam cleaning*** is a method of cleaning carpets in which a hot detergent mist is injected under high pressure into the carpet. The solution and loosened soil are immediately removed from the carpet by a vacuum attached to the extraction machine. Extraction also is referred to as steam cleaning. The cleaning tool used is called a wand which has spray jets mounted just behind the wet pickup head. Various types of wands are available including power heads and rotary jets, making it easy to adjust the cleaning technique to fit the carpet and cleaning job. Extraction equipment can be portable or truck mounted. The truck-mounted method is more powerful.

The extraction method cleans carpets thoroughly, leaves little residue, removes embedded soil, and does not distort carpet fibers since no brushing occurs. However, the extraction method is time consuming and requires special equipment. Also, a considerable amount of time is required for carpet to dry thoroughly.

The ***bonnet method*** is a method of carpet cleaning in which shampoo and a rotary floor machine with a bonnet are used to remove surface soil. A bonnet is an absorbent, circular cloth pad that fits on a rotary floor machine. A bonnet is made of cotton or a cotton blend. The bonnet also is referred to as a spin yarn pad. The bonnet method is inexpensive and dries quickly. In addition, the bonnet method does not harm carpet and does not require specialized equipment. The major disadvantage of the bonnet method is that it is only effective for surface cleaning. Therefore, the bonnet method should be used in addition to regular deep cleaning procedures.

The ***dry extraction method*** is the process of cleaning carpet with an absorbent compound. Absorbent compound is a commercially prepared powder made of absorbent fibrous material, water, a detergent, and a dry solvent. Dry extraction is also known as the absorbent compound method. Dry extraction effectively cleans the surface of carpet and maintains a uniform appearance. This method is suitable for cleaning delicate carpets that should not be subjected to frequent wet shampooing. In addition, absorbent compound dries quickly. A disadvantage of the dry extraction method is that it is not effective in cleaning heavily soiled carpets. This method is used most effectively for frequent periodic cleanings.

Foam cleaning is the process of cleaning carpet with a foam consisting of a small amount of water mixed with a liquid detergent. A specialized foam-generating machine with rotating brushes is required for foam cleaning. The term dry foam is also used to refer to foam cleaning. Foam cleaning does not require large amounts of time for drying. In addition, changes to the texture and color of carpet are minimized. However, foam cleaning has several disadvantages. Carpet may become soiled again rapidly since foam cleaning does not remove all soil from the carpet. Embedded soil is not affected by foam cleaning. Specialized equipment that is required for foam cleaning may damage carpet fibers. Furthermore, overwetting of carpet is possible. Overwetting may result in shrinkage of the carpet or staining caused by wet carpet backing.

Many medicines, foods, beverages, and other liquids contain dyes. When these substances spill on carpeting, they may color the fibers or be absorbed into the fibers making removal very slow or impossible. Some stains are impossible to remove. The stain can sometimes be hidden by spot dyeing or by patching the affected area.

◆ Essential Questions: ◆
Caring for Carpet and Rugs

1. What two factors prolong the life of carpet?
2. How do soil and dust damage carpet and rugs?
3. How often should carpet and rugs be vacuumed?
4. What is the key to removing stains from carpet and rugs?
5. What are the four cleaning methods used by professional carpet cleaners? Explain each method.

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Stain Removal for Carpet

Spotting Solution Suggestions:

- detergent solution – 2 teaspoons liquid or powder detergent to 2 cups warm water
- ammonia solution – 2 tablespoons ammonia to 1 cup water
- white vinegar or acetic acid solution – 2/3 cup white vinegar to 1 1/2 cups water

Spotting Recommendations

Beer
Blot up excess, sponge with detergent solution, blot with cloth, and sponge with water. If traces remain, sponge with white vinegar solution and blot with cloth. If traces still remain, sponge with dry-cleaning solvent.

Blood
Blot up excess, sponge with cold water, blot with cloth, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. Repeat if necessary.

Butter
Scrape and blot up excess, sponge with cold water, blot with cloth, sponge with detergent solution, and blot with cloth. If traces remain, sponge with detergent solution, blot with cloth, and sponge with water. If traces still remain, sponge with white vinegar.

Candle Wax
Scrape up excess, blot with dry-cleaning solvent, and blot with cloth. If traces remain, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. Repeat if necessary.

Candy
Scrape up excess, blot with dry-cleaning solvent, and blot with cloth. If traces remain, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. Repeat if necessary.

Catsup
Scrape up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. Repeat if necessary. If traces remain, sponge with ammonia solution, blot with cloth, sponge with water, and blot with cloth.

Chocolate Milk or Cocoa
Blot up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. If stain persists, sponge with white vinegar solution, blot with cloth, and sponge with water. If stain still persists, sponge with detergent solution again.

Cola
Blot up excess, sponge with detergent solution, and blot with cloth. Repeat if necessary. If stain persists, apply ammonia solution and blot with cloth. If stain still persists, apply white vinegar solution and blot with cloth.

Crayon
Scrape up excess, sponge with white vinegar solution, and blot with cloth. If stain persists, sponge with dry-cleaning solvent. If stain still persists, sponge with detergent solution, blot with cloth, and sponge with water.

Egg
Scrape or blot up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. If stain persists, sponge with ammonia solution, blot with cloth, and sponge with water. If stain still persists, sponge with detergent solution again, blot with cloth, and sponge with water. If stain still persists, sponge with dry-cleaning solvent.

Food (General)
Scrape or blot up excess, sponge with dry-cleaning solvent, and blot with cloth. Sponge with detergent solution, blot with cloth, and sponge with water. Repeat if necessary.

⇨ Figure 11.10

Stain Removal for Carpet

Food (Greasy)

Scrape or blot up excess, sponge with dry-cleaning solvent, and blot with cloth. Sponge with detergent solution, blot with cloth, and sponge with water. Repeat if necessary.

Fruit Juice

Blot up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. If stain persists, sponge with ammonia solution. If stain still persists, sponge with white vinegar solution.

Furniture Polish

Blot up excess, sponge with dry-cleaning solvent, and blot with cloth.

Glue (Plastic Base)

Scrape or blot up excess, sponge with detergent solution, blot with cloth, and sponge with water. If stain persists, sponge with white vinegar solution, blot with cloth, and sponge with water.

Grease

Scrape up excess, sponge with dry-cleaning solvent, and blot with cloth.

Gum

Scrape up excess (may be easier if chilled first with ice cube or aerosol gum remover), sponge with dry-cleaning solvent, and blot with cloth. Repeat if necessary.

Ice Cream

Scrape or blot up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. If traces remain, sponge with ammonia solution, blot with cloth, sponge with water. If traces still remain, sponge with white vinegar, blot with cloth, and sponge with water. If traces still remain, sponge again with detergent solution.

Ink

Blot up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. If traces remain, sponge with ammonia solution, blot with cloth, sponge with water, and blot with cloth.

Iodine (Tincture)

Blot up excess, sponge with detergent solution, and blot with cloth. If stain persists, sponge with dry-cleaning solvent, blot with cloth, sponge with water, and blot with cloth. If stain still persists, sponge with white vinegar solution, blot with cloth, sponge with water, and blot with cloth.

Lipstick

Scrape up excess, sponge with white vinegar solution or detergent solution. Blot with cloth, sponge with water, and blot with cloth. If stain remains, sponge with dry-cleaning solvent.

Liquor

Blot up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. Repeat if necessary. If traces remain, sponge with white vinegar solution, blot with cloth, sponge with water, and blot with cloth. If stain still persists, sponge again with detergent solution, blot with cloth, and sponge with water.

Mustard

Scrape up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. Repeat if necessary, If traces remain, sponge with white vinegar solution, blot with cloth, sponge with water, and blot with cloth. If stain still persists, sponge again with detergent solution, blot with cloth, and sponge with water.

Nail Polish

Scrape or blot up excess, sponge with white vinegar solution, and blot with cloth. If stain persists, sponge with nail polish remover or acetone, blot with cloth, sponge with water, and blot with cloth. If stain still persists, sponge with detergent solution, blot with cloth, and sponge with water. IF traces remain, sponge with ammonia solution.

⇨ ***Figure 11.10, cont'd.***

Stain Removal for Carpet

Paint (Latex)

Scrape or blot up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. If traces remain, sponge with ammonia solution, blot with cloth, and sponge with water. If paint has dried, professional attention is recommended. However, a paste-type paint remover followed by dry-cleaning solvent and then detergent can be tried.

Rust

Scrape up excess, sponge with detergent solution, blot with cloth, and sponge with water. Repeat if necessary. If stain is old, professional attention may be necessary.

Salad Dressing

Blot up excess, sponge with dry-cleaning solvent, and blot with cloth, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. If stain still persists, sponge with white vinegar solution, blot with cloth, and sponge with water.

Shoe Polish

Blot up excess, sponge with dry-cleaning solvent, and blot with cloth, sponge with water, and blot with cloth. If trace still persists, sponge with non-oily paint remover, blot with cloth, sponge with water, and blot with cloth. If stain still persists, sponge with dry-cleaning solvent again, and then try detergent solution.

Tea

Blot up excess, sponge with detergent solution, blot with cloth, sponge with water, blot with cloth, sponge with white vinegar solution, and blot with cloth.

Urine

Blot up excess, sponge with detergent solution, blot with cloth, sponge with water. Sponge with ammonia solution and blot with cloth. If stain persists, sponge with white vinegar solution, blot with cloth and sponge with water.

Vomit

Scrape and blot up excess, sponge with detergent solution, blot with cloth, sponge with water, and blot with cloth. Repeat if necessary.

Water Color Paints

Blot up excess, sponge with detergent solution, blot with cloth, and sponge with water.

Source: *Custodial Technician Handbook I: Basic Cleaning Procedures in Custodial/Housekeeping Operations.* Irvine, California: Cleaning Management Institute, 1989.

⇨ Figure 11.10, cont'd.

Chapter Highlights

- Floors should be durable, but they also need to be attractive and fit into the color scheme of the room and home. The type of flooring for a room should be chosen according to the use of the room.
- Many types of floor coverings are used today. The three major categories of flooring are soft, hard, and resilient.
- Types of flooring include wood, stone, tile, vinyl, and carpeting.
- The first carpet mill was established in 1791 in Philadelphia, Pennsylvania. The invention of the power loom in 1841 was the most important contribution that the United States made to the carpet industry.
- The six functions of carpet include acoustical, beauty, atmosphere, thermal insulation, safety, and comfort.
- When selecting carpeting for residential use, there are three factors that are probably the determining reasons why people choose carpeting. These factors include color, comfort, and cost. In contract and institutional situations, the determining factors for carpeting choice are durability, traffic, cost, and ease of maintenance.
- Three factors are important for a consumer to know about carpet construction and quality. These factors include density, heat setting, and twist.
- In judging the quality of a carpet, a common rule is that the deeper and the denser the carpet, the better it is.
- Carpet may be manufactured by four methods. It can be woven, tufted, needle-punched, or knitted. And, carpets need good padding or underlay to provide good wear and extend the life of the carpet.
- Determining the exact amount of floor covering needed is difficult and requires skill and experience. Many factors affect the amount needed, such as the width of the floor covering, patterns that require matching, and irregular room shapes. Because floor covering is expensive, a mistake in calculating the amount needed can be costly.
- Preventive maintenance should begin the day the carpet is installed. The right care can keep carpet looking good for many years. Prompt removal of stains and spills is equally important to the need for regular, careful vacuuming.
- Carpet manufacturers recommend that carpet should be vacuumed at least once a week. Vacuuming twice a week is preferred. Heavy traffic areas should be vacuumed daily.

Chapter 12

Case Goods and Upholstered Furniture

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

2A Analyze characteristics of materials and workmanship in relationship to durability and use.

2B Identify characteristics of materials and workmanship in relationship to appearance, performance, use, and care of furnishings.

2C Explain labeling requirements and appropriate procedures for the care of various furnishings.

3C Describe trends in materials, accessories, lighting, and space utilization.

4A Describe furniture and equipment used in residential and nonresidential applications.

7A Appraise characteristics of good workmanship in furnishings products.

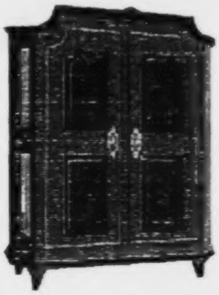
Chapter Vocabulary

- all wood construction
- boxing
- butt joint
- cambric
- case goods
- combination wood
- composite boards
- distressed finish
- double coil
- dovetail joint
- dowel joint
- dust cloth
- excelsior
- faux leather
- feathers
- framework
- hard or medium density fiberboard
- helicals
- hides
- kapok
- levelers
- metal furniture
- mitered joint
- moroccos
- mortise and tenon joint
- packing slip
- particle board
- plastics
- platform
- plies
- rabbet joint
- roans
- sidemark
- simulated wood finishes
- skirt
- solid wood construction
- special finishes
- stock
- tongue and groove joint
- tufts
- twine
- typar
- veneer construction
- watermark
- webbing
- welting

As an interior design assistant, sales assistant, or interior designer, it is important to understand the needs of individuals who are shopping for furniture. Interior designers and other personnel are responsible for helping guide customers in making the best choices for them. It is not just about making the sell. It is about gaining their trust so that they will come back in the future and be happy about their furniture decisions.

The first thing to tell individuals who are shopping for furniture is to think carefully about the needs of the people who will be living in the room. Ask them, "Are you someone who moves frequently or requires furniture that will fit into a compact space? Will the furniture to be purchased be expected to withstand the wear of energetic children and pets?" Knowing family living activities, room sizes, the amount of money that they can comfortably afford to spend on furniture, and how long they anticipate the furniture to last, will help them to determine which furniture to select. A piece of furniture that does not suit the family's style of living is not a good buy at any price. If the individuals are purchasing their furniture for an investment, then encourage them to buy the best furniture that they can afford. Suggest that they purchase a few select pieces now and add additional pieces as they have more money. Society today is focused on "now" and many young families think they must have it all at once. The nice thing about planning for the future is the excitement and anticipation of the next purchase.

Before assisting individuals in making appropriate furniture decisions, it is important to understand about furniture. There are two main categories of furnishings: case goods and upholstered goods. ***Case goods*** include items that are not upholstered, such as solid wood dining chairs, beds, tables, chests, cabinets, secretaries, desks, and other storage pieces. Upholstered goods include chairs, sofas, ottomans, and benches that have fabric coverings.



CASE GOODS

Materials and methods of construction are critical factors in determining the quality of furnishings. If either is slighted, the quality of workmanship will be less than satisfactory.

Wood, metals, plastics, and fabrics are the primary materials used to make furniture. Good workmanship refers to construction techniques used in fastening pieces together to form sturdy furnishings that will hold their shape and be durable for a long time.

When looking for quality in furnishings, the primary considerations are the materials, the construction, and the finish.

Wood is the most common material used to construct furniture. There are numerous species of wood. Each has different qualities that make it more suitable for some uses than others. Solid wood and veneers may be used in different types and qualities of furniture. Wood finishes vary with the quality and type of furniture. As discussed in Chapter 8, wood is classified as hardwood or softwood. Softwood is from trees that remain green all year and bear cones and needles. Hardwood comes from trees that lose their leaves in the winter.

Hardwood is generally preferred over softwood for quality furniture. Hardwood has greater stability and is more durable. Hardwood holds nails and screws better and is less likely to dent. Hardwood also is more expensive than softwood. Hardwoods used most often for quality furnishings include maple, oak, pecan, cherry, and walnut. More expensive hardwoods include mahogany, rosewood, and teak. Figure 12.1 shows examples of case goods.

Types of Construction

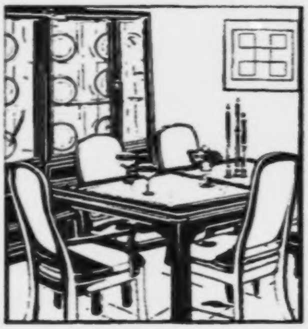
There are several types of construction that need to be understood in regard to wood furniture. These are solid wood construction, veneer construction, and simulated wood finishes. First, ***solid wood construction*** means that all furniture surfaces exposed to the eye are composed of top grade woods such as mahogany, cherry, oak, maple, pine, pecan, etc. Also, it is important to note that all interior woods that are not visible at all times may be different species of wood.

Individuals generally pay more for solid wood furniture because of higher material costs and the involvement of a greater amount of hand craftmanship. The most commonly used solid wood pieces are pine, birch, cherry, and maple.

Through combining modern technology with hand workmanship in furniture, veneer construction is handsome, durable, and affordable to most consumers. ***Veneer construction*** is made up of several thick layers of wood called ***plies***. These plies are permanently glued to a central core with each layer of veneer being cross-turned so that the grain is running in opposite directions. The outcome of layering these plies to a central core creates a product that is highly resistant to warping, swelling, and splitting. The outer layer is the more expensive or better quality wood.

The natural beauty of fine wood veneer permits matching of grain, decorative inlays and effects. It should be understood that some of the most expensive pieces could be of veneer construction depending on the type of woods used. Because veneers are so thin, rare highly grained woods can be used in furnishings that would otherwise be too expensive or impractical. They can also be arranged with other rare woods to create unique, decorative designs that would add great expense to the piece of furniture.

Simulated wood finishes include processes that photograph images of wood grain on rugged hardboard panels. These surfaces can have an attractive look of real wood grain at a less expensive price. It could be that some of the decorative areas are molded plastic with a wood finish. This is one way that manufacturers can keep prices low. Often times, plastic laminates are used for tops and other high wear areas. For enormous practicality and wear, some furniture is made entirely from laminate material that has the appearance of a wood-grained pattern. Again, this information would be listed on the mandatory hangtag that is attached to all furniture.

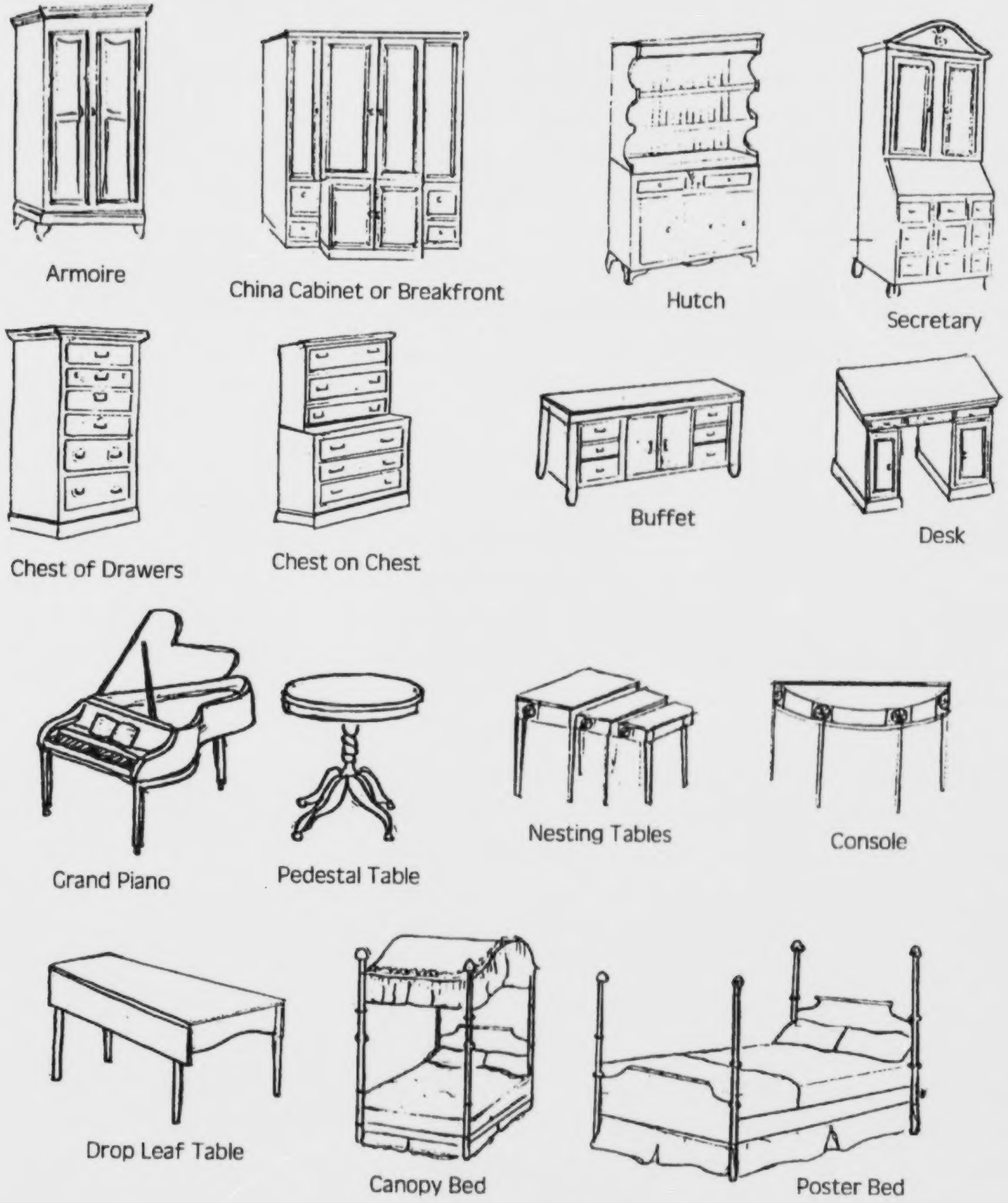


Combination wood describes a piece of furniture with more than one type of wood used in the exposed parts. ***All wood construction*** means that the wood exposed is the same wood throughout the entire thickness of the piece.

Composite boards are wood boards made from wood particles. These boards are less expensive and sometimes more durable than veneered or solid wood pieces. There are two basic types of composite board. They are hardboard and particle board and are both made by combining wood particles, resins, heat, and pressure.

Hard density or ***medium density fiberboard*** is made from tiny wood fibers or pulp

Examples of Casegood Furniture



Armoire

China Cabinet or Breakfront

Hutch

Secretary

Chest of Drawers

Chest on Chest

Buffet

Desk

Grand Piano

Pedestal Table

Nesting Tables

Console

Drop Leaf Table

Canopy Bed

Poster Bed

⇨ ***Figure 12.1***

that are pressed and glued together. The material created is a very durable material used for the core on veneered furniture as well as for interior cabinet panels.

Particle board is made from wood shavings pressed together with adhesive and heat. Softwoods, such as pine, aspen, poplar, and fir, are used most often. Even though particle board is sturdy and versatile, it is often used for cabinets and other furnishings of low quality. The surface also may be covered with a wood veneer or laminated plastic. Particle board can be identified by irregular crystallized patterns on the surface of the piece.

Construction Techniques Used in Quality Furnishings

Many different techniques and joints are used to construct furnishings. Quality workmanship in construction is expensive, time consuming, and often hidden from view. Even though most furnishings today are made by modern machinery, no piece is entirely machine made. Quality furniture still has many finishing details performed by hand.

Joints affect the quality of furniture. Quality furnishings have strong, firm, and carefully matched joints. The construction of quality joints is expensive and time consuming. The following are descriptions and characteristics of furniture joints. These joints are illustrated in Figure 12.2.

The ***dovetail joint*** consists of a series of projections on one edge that fits into the spaces between the projections on the other edge. The dovetail joint is used most often on high quality construction for maximum strength.

The ***butt joint*** is a joint in which two pieces are nailed or glued together. It is a weak joint that cannot withstand strain. This type of joint is used most frequently in low-quality furniture.

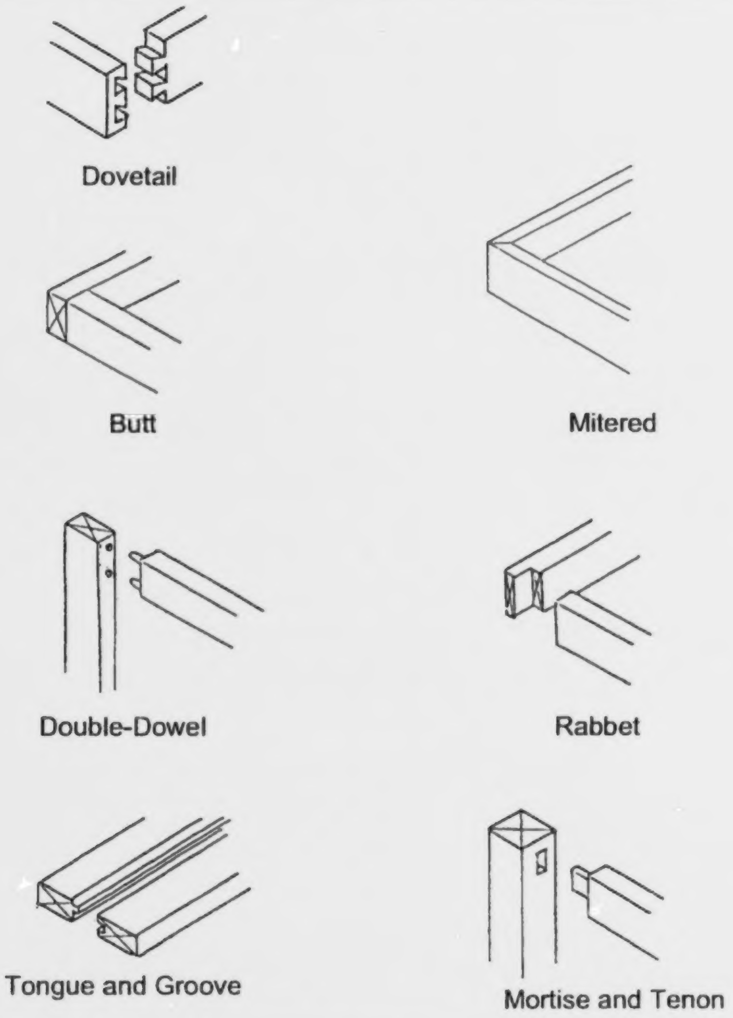
The ***mitered joint*** is a joint with two edges that are cut at 45° angles and joined to form a square corner. The joint is glued or reinforced with nails. This is a weak joint. It is frequently used on picture frames and moldings. Sometimes it is reinforced with dowels, corrugated (having parallel ridges or wrinkles) fasteners, or a lapped miter or rabbet joint.

The ***tongue and groove joint*** has a projection on one edge that fits into a groove on the other edge to form a flush piece. It is stronger if glued. This joint may be used for drawers and wall panels.

These joints also may be glued. Modern technology has produced glues with tremendous strength that typically exceed the strength of the wood. There should be no excess glue in a joint. Larger pieces may have additional corner blocks for added support. Corner blocks should be fitted, glued, and screwed into place. Corner blocks should not be nailed into place.

The ***mortise and tenon joint*** consists of a projection or tenon on one edge that fits into the hollowed space (mortise) cut in the other edge. This joint may be reinforced by glue or screws. It is one of the strongest joints. It is used to join frame parts of tables and chairs.

Joints Used in Furniture Construction



⇨ *Figure 12.2*

The ***dowel joint*** consists of a small wooden peg fitted into corresponding holes, which are joined with glue. This is a strong joint. Two dowels (double dowel joint) can be used for added strength. Grooved dowels allow air and excess glue to escape, thus producing a very strong joint. This joint is used on chairs, frames, and other pieces of furnishings.

The ***rabbet joint*** has a groove or cut made in the edge of a piece in such a way that another piece can be fitted in to form a joint. This joint is often used in joining frames.

Furniture Finishing. Much is involved in the finishing of furniture. The final finish, as well as hardware and hinges must be added. However, it is often these final steps and processes that are reflected in the beauty of the finished piece.

Since quality and construction are of utmost importance in wood furniture, it is essential that the interior design assistant or sales assistant have a good knowledge of these techniques. The doors and drawers of case goods tell much about the quality of a piece. For instance, doors should swing smoothly and quietly, and should fit and latch snugly. Backs of doors should be finished like the front and inset panels.

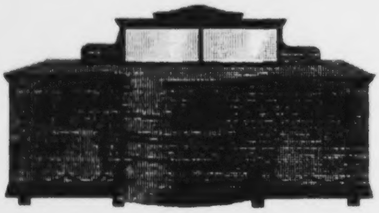
Glass should be installed carefully so as not to shake or rattle during use. Drawers should open and close easily and smoothly, fit snugly in the frame, and be flush with the furniture front. It should be recommended to consumers that they remove and examine a drawer and the interior of case goods.

Some things to check for when determining quality in drawer construction include the following:

- Sturdy joints, preferably dovetail joinery on all four corners
- Wood back and side panels about one-half inch thick
- Smooth sanded interiors so as not to snag delicate sweaters or fabrics
- Firm bottoms that do not bend much when being pushed
- Center or side guides that allow the drawer to glide easily without moving from side to side
- Automatic drawer stops that will keep the drawer from being pulled out too far
- Hardware that has no rough edges and is well secured from the inside

Some things to check for when determining quality construction in the interior case include the following:

- Dust panels between drawers to add strength and to prevent clothing from getting hung
- Smoothly sanded wood pieces, tight joinery with excess adhesive removed
- Corner blocks, glued and screwed in place
- Interlocking mortise and tenon, or double dowel joinery for extra sturdiness



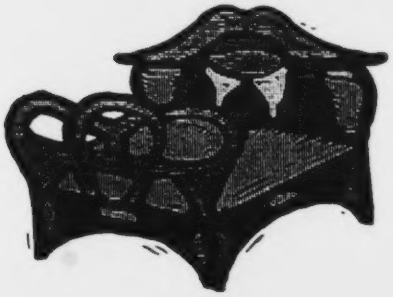
Good furniture hardware is expensive. Usually the lower the price, the poorer the quality of the hardware. The best hardware is made of cast metal—often brass. In quality pieces, no sharp edges or burrs should be felt.

Furniture hardware includes handles, keyhole plates, hinges, and handle plates. Solid brass is popular for its durability and its appearance. A person should look for an indication that the hardware is solid brass. Less expensive hardware may be made of steel with a finish applied that looks like brass.

Furniture hinges are another important aspect of quality furnishings. Doors should be swung back and forth to see that the hinges work properly. The hinges should not give when a slight downward pressure is applied. If they do, the hinges could be too small or too lightweight. Doors also should fit together without much space between them. Drawer pulls and other hardware should be attached properly. Screws that attach drawer handles should go through the face of the drawer.

Stains, oils, glazes, waxes, or sealers are used during the finishing process. Finishes are substances such as lacquer, paint, varnish, or plastic that are applied to exterior surfaces.

A quality finish enhances the natural beauty of wood and seals it. This protects it against moisture and wear. Fine quality wood pieces should be properly treated and finished. Several layers of finishing materials should be used to add color. They should be applied with the natural grain. A good finish is characterized by a smooth surface that is free of bubbles, streaks, cracks, and drips. The finish also should protect wood from heat, moisture, and scratches.



The actual finishing stages of a piece of furniture can include as many as twenty-five steps. The actual process can vary from a one process dipping, spraying, or coating for inexpensive pieces to satiny finishes and soft sheens attained on finer pieces by hand rubbing.

A ***distressed finish*** is one used on antique reproductions to make them look old and used. ***Special finishes*** provide extra protection to special pieces of furniture, such as dining tables, that receive hard wear. Special finishes include polyurethane finishes, manufactured varnishes, and vinyl surfaces that are built in to case goods. These special finishes resist scratching, staining, and burns. They also provide easy care.

Poor quality furniture can be recognized by thick, stained varnish or a quickly dried single coat of varnish. Other characteristics are shines that are hard and glossy instead of mellow and rich. These low quality finishes do not last as long as the smooth, protective, mellow glow of quality finishes.

Other important construction features to look for include a uniform grain that appears to flow over the surface. The wood and other materials should be the same color unless they are done otherwise intentionally. Unexposed parts should be sanded smooth, stained to match the rest of the piece, fitted precisely, and fitted smoothly.

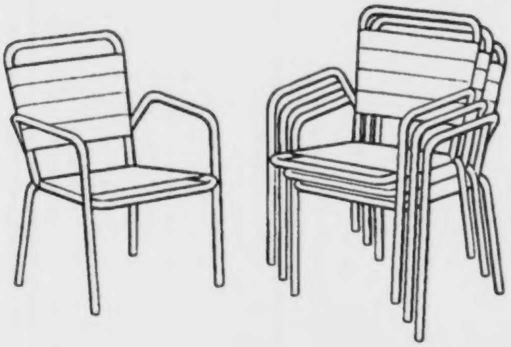
Legs of furniture should be even to make the piece well balanced. The legs should have metal tips on the bottom to prevent damage to the piece.

Tables should be rigid and balanced so that no movement is noticeable. Table leaves should be harmonious in graining, finishing, and decorative detail. The table and leaves should not sag, but should be even when fully extended. Better quality table leaves should have apron sides to match the table edge. Quality case goods have ***levelers*** (devices installed on the legs of heavy furniture that can be adjusted so the piece can be level) to compensate for uneven floors.

Plastics are materials that may be used for construction of case goods because they are durable and easily cleaned. They can be molded into entire pieces of furniture. They can be colorful, strong, comfortable, and lightweight. Plastics are durable and resistant to abrasion, moisture, heat, and most solvents. Plastics are available in a wide price range. Characteristics of quality plastic goods include the following:

- They are made of thick, heavy gauge materials.
- They have uniform color and gloss.
- Their edges should be smooth and surfaces free of flaws.
- They should be completely finished on all sides.

Metal furniture is made of wrought iron, aluminum, chrome, or brass finished steel. Metal is a material that lends itself to being mass-produced. Metal furniture is mass-produced because its properties are more suited to machining than handcrafting. It varies in price, is strong and durable, but is not bulky. Metal furniture is generally constructed stronger than normal household use requires.

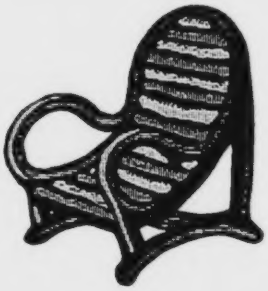


A quality feature of metal furniture is rust-proof finished joints. If not welded, these should be securely bolted or riveted. Another quality feature is rubber pads on table tops to keep glass firmly in place. The glass tops should be at least half an inch thick to lessen the chance of shattering as a result of a hard blow.

Wicker, rattan, cane, and bamboo are all lightweight and give an airy feeling to a room. The tropical vines used are often handcrafted. This type of furniture is popular because it has little or no maintenance requirements and it tends to have a high resale value. This type of furniture should not be left outdoors because rain and direct sun damage it.

Furniture Care

Proper care can increase the life and beauty of case goods. Knowledge of the types of furniture care products available and the purpose of each contributes to selection of the best product for a particular use. Scratches, spots, and burns are probably the most frequent causes of damage to wood furniture.

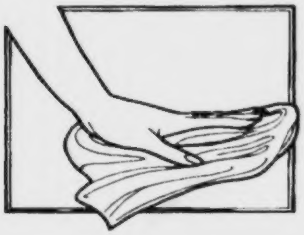


Dust and grit can damage wood and tile floors as well as furniture finishes. When soil and dust accumulate on furniture, they act like very fine sandpaper. They are abrasive to the finish and can scratch it. Dusting furniture regularly is very important.

Waxes and polishes should not be applied very often. Certain types of polish damage wood. Instructions should be followed carefully when using a liquid furniture polish. Polishes should be used only about once every few months to provide a protective finish. A person should use only wax or polish that is recommended by the manufacturer. Instructions for general maintenance of the piece also should be followed. Tips for dusting furniture include the following:

- Use a dust cloth folded several times to provide more dusting surfaces.
- Begin at the highest point to be dusted and work downward.
- Use long, straight, overlapping strokes that cover the length of the surface.
- Dust with the wood grain to avoid streaking.
- Use one cloth in each hand to save time.

- Refold the cloth as it becomes dirty. Dirty cloths may damage the finish.
- Never shake out the dust cloth.
- Dust all surfaces and under all objects.



Whether in the store or in the customer's home, wood can be scratched. Minor scratches can be treated with one of the numerous touch-up markers and pens available in a variety of finish colors. These touch-up markers and pens are relatively inexpensive and can be purchased at a furniture store. The pen or stick that matches the color of the furniture should be rubbed into the scratch and then wiped with a soft cloth. If needed, a coat of polish may be applied after this. When polishing the furniture, be sure to rub with the grain.

Water should never be allowed to stand on any wood surface. A **watermark** occurs after a wet glass has been left on the unwaxed surface of a piece of furniture. Water can penetrate into the pores of the wood and cause it to swell or warp. Water also can cause the stain used on unsealed woods to bleed. Unfortunately, this may happen regardless of how careful a person is. If it should occur, a few things can be done to reduce the damage. Wax or polish should be rubbed into the wood with a soft cloth. Another method is to place some sort of blotter over the ring and press it with a warm iron until the ring disappears. If too many watermarks are left over an extended period of time, the piece may need to be refinished because these marks can eventually ruin the finish of the wood.

◆ *Essential Questions:* ◆ *Case Goods*

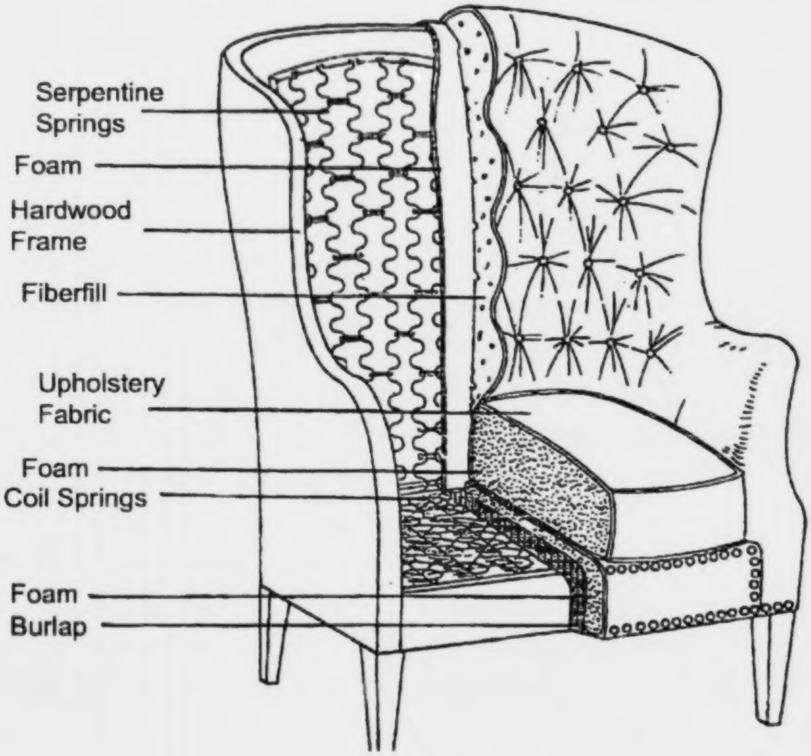
1. What are the three primary factors to consider when determining the quality of furniture?
2. Why is hardwood considered the best choice for quality furniture?
3. Why is solid wood furniture generally more expensive than other types of wood furniture?
4. What do consumers need to look for when examining the joints of new furniture?
5. What are the characteristics of a quality finish on furniture?

UPHOLSTERED FURNITURE

Various workrooms and interior design studios provide upholstery services for customers. Customers may want their dining room chairs to be reupholstered in fabric that matches draperies. Another customer may want a sofa and chair to coordinate with wall coverings. An interior design assistant or sales assistant may be expected to assist with these tasks. Examples of upholstered furniture are shown in Figure 12.3.

An interior design assistant or sales assistant may help a customer determine whether or not a piece of furniture is worth reupholstering. Some furniture brands are of better quality and are more durable than others. Identifying the brand name can help determine whether or not the piece of furniture should be reupholstered. The overall appearance and condition of the springs also should be considered. Springs that are not broken or have not come untied may need minor repair.

Construction of an Upholstered Chair



⇨ ***Figure 12.4***

Fabric selection is most important in upholstering. The room in which the item will be used and the style of the furniture piece should be considered. Traditional or contemporary furniture designs can be formal or informal depending upon materials (woods or metals) used and finish applied. Formal upholstery fabrics should be selected for finer woods and highly polished finishes such as mahogany and walnut. More informal fabrics can be used with oak, maple, and pine. Figure 12.4 shows the parts of an upholstered chair.

Characteristics of Good Workmanship in Upholstered Furnishings

Upholstered furnishings receive greater wear than almost any other type of furnishing. Quality in upholstered pieces is difficult to determine because of the many internal construction features hidden under the fabric. Upholstered pieces are often made to order because customers can choose their own fabric and style. The cost of the piece is determined by a variety of factors including size, type and quality of the component parts, workmanship, and fabric. The wood finish, cushion type, skirt type, and decorative trims increase the cost even more. Figure 12.5 lists some characteristics of quality upholstered furniture.

The ***framework*** (wooden, structural parts) and the seat base are essential parts to investigate to determine quality pieces. An upholstered piece should have a heavy frame made of kiln-dried hardwood with double-doweled joints glued for reinforcement. In addition, all corners should be corner-blocked and screwed.

Characteristics of Quality Upholstered Furniture

- The piece should be comfortable.
- Heavily used pieces should have eight-way hand-tied coil spring seat construction.
- Quality furniture has a sturdy hardwood frame.
- The piece has good tailoring:
  - The fabric pattern should be carefully placed and centered. The fabric pattern should align both vertically and horizontally across the piece (especially stripes, plaids, and checks).
  - The fabric pattern is matched on the back of the piece as well as the front so it can be placed in free-standing positions (not just against a wall).
  - All seams should be straight.
  - The cording or welting should be straight, firmly stitched, and smooth.
  - The hems and pleats should be even and the skirt should hang straight.
- There is a stain-resistant finish on fabric (olefin is inherently stain-resistant).
- Cushions should fit snugly into the corners of the seat and with adjoining cushions. Wear can be more evenly distributed if the cushions are reversible.
- Decorative details, such as tufting and buttons, add to the cost of the furniture but also give the individuality that is expected in the more expensive and high quality furnishings. Buttons should be securely attached.
- Matching and close-fitting arm caps are provided at no charge. Inquire if the arm covers are included or are available at an additional charge.
- Furniture has individually-applied nailheads instead of stimulated strips tacked on at intervals.

⇨*Figure 12.5*

Webbing. Conventional upholstery has a pattern of springs over webbing to aid in seating comfort. ***Webbing*** is made from natural fibers such as jute and flax, manufactured fibers, or a combination of the two. It can be as narrow as 1 1/2 inches or as wide as 3 inches with the most common being 2 inches. Twill weave webbings are stronger than less expensive plain weave webbings. Twill is recognized by the diagonal line pattern.

Natural materials can deteriorate and rot with age. Manufactured materials are available that should last longer. Manufactured materials must be chosen so that they achieve comparable results with natural fibers. Polypropylene is a successful substitute. Rubber webbing also is used especially with foam padding.

Springs. Springs have been used in upholstery for many years. Springs come in various forms. Flat zigzag or S-type springs are the best for being nailed to the frame. These springs are linked together with small coiled springs called ***helicals***. This construction has a minimum amount of bulk.

The ***double coil*** is the traditional spring. The top and bottom of the coil are the same size. The center of the coil is smaller.

Twine is used to link springs together at the correct distance. It is used to tie and secure springs to the webbing. Twine may be made of hemp, flax, or cotton, but twine made of manufactured fibers is stronger. However, manufactured twine is more slippery. Special knots are required to secure fastenings. A properly sprung and tied seat is very comfortable.

Hand-tied coil springs attached to webbing or steel bands are found in higher priced chairs and sofas. An average size chair has nine to twelve springs per seat. In higher quality pieces, the springs are tied as many as eight times per spring.

Stuffing. A thick layer of cushioning or padding material should be applied directly over the springs and frame. Several materials should be used for padding, such as polyester fiberfill, urethane, feathers, down, or latex foam. More expensive pieces have feathers or down while the less expensive pieces have some type of fiberfill. The frame should be padded sufficiently so neither the wood nor lumps can be felt. Padding used on the arms and backs may be softer. This could be foam pieces covered with polyester fiberfill.

Two cushioning materials used most often in quality upholstered pieces are firm urethane foam and natural latex foam rubber. After being covered by softer layers of foam, the padding should be wrapped in polyester fiberfill. The cushions then should be covered in a tightly woven fabric. The platform or seat base on which the cushions rest also should be covered in a tightly woven fabric that is color coordinated with the remainder of the piece.

Numerous materials have been used for stuffing or filling. Natural substances used include fiber, feathers, and wool. Rubber or plastic foam is used more frequently today. Regardless of the material, the cushioning is created by the air bubbles in the stuffing. Through manufacturing, cushioning can be regulated to give soft, medium, or fine seating. It can be molded into various shapes and sizes. Stuffing should remain twisted or curled to keep it from packing too tightly and allowing air pockets.

Filling made of hair is most likely a mixture of hairs from cattle and other animals. It is cleaned, sterilized, and dyed before being twisted into ropes. Twisting gives curl to the hair. When separated, the curl is permanent. Long hairs are preferred over short hairs because they can be placed more easily.

Wool in various forms is a type of stuffing that has been available a long time. At one time it was used directly after being cut from the animal. Today, wool is used in a form similar to that of cotton batting (sheets of cotton used in quilted items). Used in upholstery, batting comes in rolls about 1 inch thick to be cut as needed.

Feathers are used for pillows and cushions more than for upholstered chair and sofa backs or fixed seats. The hand-plucked feathers from the breasts of eider ducks (large sea ducks) are the highest quality feathers. The feathers most commonly used are ordinary poultry feathers. Warmth is a characteristic of feathers, but they do not retain their shape or cushioning effect like other materials.

Kapok is not used very often today. This vegetable padding similar to feather stuffing was used for upholstery at sea because of its buoyancy characteristics. These characteristics diminish after several hours when quality deteriorates. With age the fibers become hard and lumpy.

Covers. Tightly woven cover fabrics are the most durable. They also should be comfortable, durable, attractive, and soil resistant. When held up to a light, a tightly woven fabric does not have light shining through. The fabric used should be able to withstand sunlight and soiling and should hold its shape and color when cleaned. A chintz or polished cotton for example, cannot withstand moderate to heavy use or exposure to sunlight. These fabrics will fade, become dull, and look worn. A quality upholstered piece also has good tailoring. Tailoring includes the cutting, sewing, and putting together of the piece. Straight seams and welt cording (raised trim over seams) note good tailoring. The fabric should be firmly stitched with no puckering. The fabric pattern should evenly match all over the piece and buttons should be hand sewn through the filling.

Sofas and chairs have been covered with a variety of fabrics. Covering material must be resistant to creasing and be flexible. Flexibility and elasticity is helpful to a certain degree because it allows the fabric to be pulled into shape with a minimum risk of damaging the fabric. Excessive curves prevent problems by enabling upholsterers to use pleats as necessities and as decorative tools.

Leather is an expensive cover that is used often in upholstery. Leather is divided into two categories called hides and moroccos. ***Hides*** refer to cowhides that produce a larger piece of leather than other types. ***Moroccos*** refer to goat skins and ***roans*** are sheepskins. Imitation leather is called leather cloth.

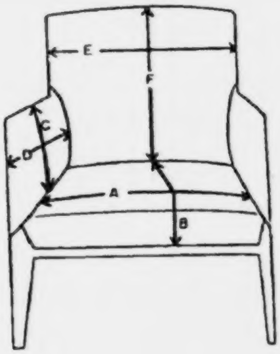
Woven fabrics are most commonly used in upholstery. Spacing on warp and weft threads is not always the same. Upholstery fabrics should be spaced the same because closely woven cloth has the greatest strength and durability. Spacing can be seen by holding the fabric up to a light. The closeness of the threads can be graded by the pick. The pick count is the number of warp and weft threads per square inch. The pick is determined by multiplying the number of warp threads by the number of weft threads. Lower pick counts indicate less durable fabric.

Upholstery fabric should be selected with durability as a major concern. Appearance and comfort should be lower on the list of requirements. Availability and price also should be considered. Figure 12.6 gives information about fabric application.

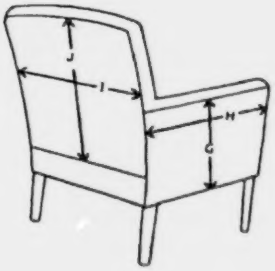
Measuring for Upholstery

Basic procedures for determining the yardage needed to upholster an item are detailed as follows:

1. Measure the width (line A) and depth (line B) of the platform. The ***platform*** is the area under the seat cushion. Add 1" to 2" to each measurement to allow enough fabric to fold under on all four sides.
2. Measure the inside of the chair arm including the top of the arm (line C). Measure the width of the inside arm (line D). Allow 1/2" to 1" on each measurement for seams.



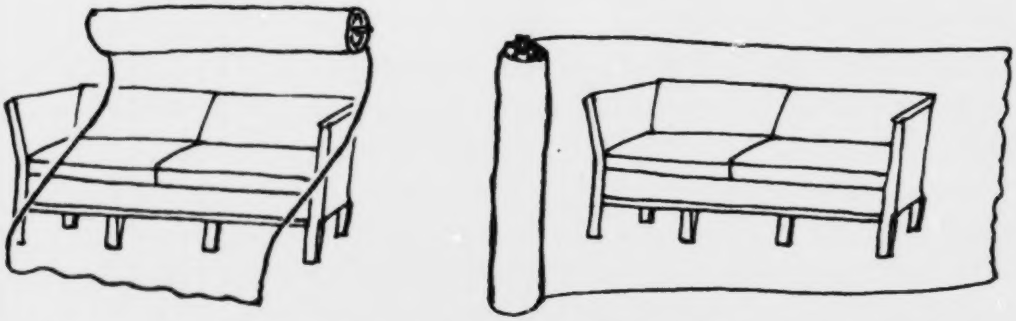
3. Measure across the widest part of the inside back (line E). Measure the height of the back (line F). Add 1/2" to 1" on all four sides for enough fabric to tack under.
4. Measure from top to bottom of the outside arm (line G) and allow 1/2" to 1" to fold under. Measure the widest part of the arm from side to side (line H) and add 1/2" to 1" to turn under.



5. Measure the widest part of the height (line J) and width (line I) of the outside back and add 1/2" to 1" on all four sides to allow fabric for folding under.
6. For the dust cloth, measure the widest part of the bottom of the item, and add 1/2" to 1" for folding the cloth under. The ***dust cloth*** is the fabric placed across the bottom of the chair or other item that hides the inner construction. ***Cambric*** is a hard-spun, closely-woven linen or cotton fabric often used to make the dust cloth. It is 30" wide. ***Typar*** is a nonwoven fabric of polypropylene sometimes used in place of cambric.
7. Measure the width and length of the cushions. Add the depth of the cushion. This is called the ***boxing***. Usually 1 yard of 54" fabric is allowed for a standard sized cushion that measures 22" x 24".
8. Measure carefully the amount needed for welting. ***Welting*** is the cording placed around seams for reinforcement and decoration. It is placed around seat cushions, backs, arms, and bases. Very straight welting is a mark of quality. Fabric for welting is cut on the bias 1" to 2" wide.
9. One yard is generally allowed for chair skirts and 1 1/2 yards for sofa skirts. A ***skirt*** is fabric that extends below the base of the furniture to the floor. Fabric amounts may vary depending upon the fullness of the skirt.
10. Consider and allow for pattern repeats when using printed fabric.

Fabric Application

When applying upholstery fabric to a large sofa, it is best to use fabrics that can be railroaded. This way of positioning fabric will save fabric yardage and eliminate seams. If a fabric has a definite vertical pattern, it will not be possible to do this. Many upholstery fabric books will state if the sample is shown railroaded.



Fabric shown in normal direction

Fabric shown in railroaded direction

⇨ ***Figure 12.6***

Care of Upholstered Goods

Fabric Upholstery. Different types of fabrics may be used for upholstered or covered furniture. Coverings that are closely woven resist soil and wear and are cared for more easily. Natural fibers used for upholstery include cotton, linen, wool, and silk. Manufactured fibers used in furnishings include nylon, rayon, polyester, and acrylic. Preserving the usefulness and appearance of furniture for as long as possible is essential due to the expense involved in buying new furniture or in reupholstering furniture.

Care of furnishings should begin the day new furniture is delivered. Knowing the right type of product to use on furnishings will keep them attractive; make them last longer; and save time, money, and effort for the person responsible for their care.

Upholstered furnishings collect as much dust on their surfaces as wooden pieces of furniture. Do not neglect dusting these furnishings just because the dust does not show. Frequent brushing or vacuuming removes surface dust more effectively than an occasional thorough cleaning. The entire furniture piece should be vacuumed at least once a week. Loose soil may be removed easily from most surfaces by brushing or sweeping. Loose soil becomes harder to remove if it remains on the surface when liquid cleaners are applied.

Cushions should be vacuumed with an upholstery attachment. Seams and tufts should be vacuumed carefully. ***Tufts*** are the places where the stuffing in the furniture is pulled in and secured with a covered button. A back-and-forth motion should be used over the entire piece. This procedure should be continued until all surfaces of the furniture are dusted. If the chair or sofa cushions are filled with down, a vacuum should not be used for cleaning. The suction will pull the down through the upholstery fabric. A brush should be used to remove the dust from this type of cushion. Turn cushions regularly to ensure even wear.

Upholstery, unless given proper care, soon acquires stains and signs of wear. Proper care can greatly extend the beauty and usefulness of an upholstered piece. Manufacturers are trying to lower the maintenance cost of upholstered furniture and drapery fabric by making them dust repellent, easy to clean, resistant to sunlight, and waterproof. Sprays can be purchased to impart a stain-resistant finish to upholstery. These protect the fabric from both water and oil stains.

Light soil or small spots may be removed with success, but it is not wise to attempt cleaning upholstery that is heavily soiled. This should be done by experienced upholstery cleaners. Spot removal is easier if it is done as soon as possible after the spotting occurs.

An interior design assistant or sales assistant may have the job of removing different kinds of stains from a variety of surfaces. The best method should not harm the surface and should be as easy as possible to complete. To determine a safe and appropriate method, consider the source of the stain, the kind of surface to be cleaned, and the mildest cleaning agent, which can be used to do the job.

Water-soluble stains, such as syrups, fruit juices, and starches, are easy to remove unless they are allowed to stand too long. Some can be removed with cold water while others need hot water. Some can be sponged off with a damp sponge while others need to be flushed out with running water. Stains that are not water-soluble are more difficult to remove. These include oil or solid dirt and oil. Like most other kinds of soil, insoluble soils will set if they are allowed to remain on a surface too long. This makes them difficult, if not impossible, to remove. Tarnish and corrosion result when a chemical reaction occurs between the surface and the air or liquids that touch it. Iron rust is a common example.

It is important to always consider the harmful effects that a stain removal treatment may have on the stained surface. Brushing and sweeping have little effect on most surfaces, except the possibility of scratching furniture surfaces. Cool or lukewarm water has no harmful effect, except when used in excess or allowed to remain in contact with the surface too long. Hot water is harmful to many surface finishes and fabrics. Alkaline solutions, such as soap, detergents, soda, or lye, are harmful to many fabrics and finishes and may fade colors. Liquid spot removers used to dissolve oily stains are safe on fabrics only when used in small amounts. Powdered absorbents, such as powder spot removers, corn meal, or sawdust, are safe on most surfaces. Weak acid solutions, such as lemon juice and vinegar, are safe on most surfaces, but strong acids are often harmful. Abrasives, such as cleansing powders, may scratch smooth surfaces.

Upholstery should be professionally cleaned periodically. When cleaning upholstered furniture, soap should never be used. It is more difficult to rinse off than detergent, especially with the small amount of water that can be used when cleaning upholstered furniture. When soap is used with hard water, it forms a sticky film that catches dust and soil. Cleaners that are used with water may cause the upholstery to spot.

A person should always try the simplest procedure first. The cleaning method should be tested in an inconspicuous area or on a small portion of the stain before covering the entire stain. If the method does not harm the surface, then the entire stain may be cleaned. Several applications may be necessary before the stain can be removed completely. If the procedure is not satisfactory on the small area, another method for removing the stain should be tested. If in doubt about the procedure to use, an assistant should check with his or her supervisor. Some stains require the attention of a stain removal expert.

A light-duty detergent is recommended for cleaning wool and silk upholstery fabrics. Manufactured fibers and cotton may be cleaned with detergents or commercial cleaners recommended for general upholstery cleaning. A commercial foam cleaner may be used, or a homemade cleaner can be made. These can be made by whipping one cup of detergent and enough warm water to make it wet until the water is gone and all that remains is lather. This lather should first be applied with a sponge to an inconspicuous place on the chair or sofa to test the fabric for colorfastness. If the fabric does not fade, the lather can be used safely to clean the upholstery. The lather should be rubbed over a small area in a circular motion until the lather looks soiled. The lather should be removed with a spatula. Be careful not to rub the upholstery too much because this will cause the fabric to look worn.

To prevent wetting the furniture padding or causing the fabric to water spot, avoid wetting the fabric any more than necessary. Wipe the area with a cloth that has been dipped in warm water and wrung out. Provide good air circulation in the room to promote fast drying. To dry thoroughly after shampooing, furniture may have to be left undisturbed as much as fifteen hours. Placing the furniture outdoors in the shade, indoors with the windows open, near an electric fan, or in a heated room may speed the drying process.

Nonfabric Upholstered Goods. Plastic coated fabrics, such as vinyl, imitation leather, and fabrics made from thermoplastic resins and polyethylene yarn, are used especially for furniture that will receive much wear. Wiping with warm soapy water then wiping with clean water is a good method for cleaning plastics. The surface may be waxed after it is cleaned.

Faux leather (or imitation leather) may be cleaned the same way as plastic upholstery. There are many types of genuine leather on the market today. (Refer to Chapter 11 for more information on leather upholstery.) Care must be taken when determining which products to use to clean leather. Consumers should always ask the sales assistant or interior designer about the products recommended for cleaning the specific types of leather.

Figure 12.7 gives detailed information about care and cleaning of upholstered goods. Consumers should be reminded to always follow the manufacturer's care instructions.

◆ ***Essential Questions:*** ◆
Upholstered Furniture

1. What factors influence the cost of upholstered furniture?
2. What two types of cushioning materials are used most often in upholstered furniture today?
3. What are the characteristics of a quality upholstery cover?
4. What factors must be considered when selecting the safest and most appropriate cleaning method for furniture?

PREPARING FURNISHINGS FOR DELIVERY

Furniture and accessories require care in handling to prevent damage or soiling. An interior design assistant or sales assistant can contribute to the care of furnishings by using proper techniques in handling items or in packing and unpacking them. Many stores deliver furniture to clients' homes. The em-

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Care and Cleaning of Upholstered Goods

1. Protect from direct sunlight and excessive moisture.
2. Clean regularly with vacuum cleaner.
3. Fluff cushions and turn to preserve shape. Turning cushions also promotes equal wear.
4. Zippers do not mean remove cushion cover for cleaning — either dry cleaning or washing. To guard against shrinkage, it is recommended that covers never be removed. Clean same way as the rest of upholstery.
5. Always check fabric cleanability label usually found on deck beneath cushion. S - W - SW

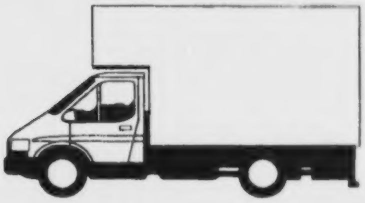
Cleaning Methods.

The National Association of Furniture Manufacturers and the Southern Furniture Manufacturers Association have established the following cleaning methods based on information from fabric manufacturers. Deck labels provide recommended cleaning instructions for fabrics, according to these three codes.

Code S	Spot clean, using a mild waterfree solvent or dry cleaning product. Clean only in a well-ventilated room and avoid any product containing Carbon Tetrachloride or other toxic materials. Pretest small area before proceeding. Cleaning by a professional furniture cleaning service only is recommended.
Code W	Spot clean, using the foam only from a water-based cleaning agent such as a mild detergent or non-solvent upholstery shampoo product. Pretest small area before proceeding. Use a professional furniture cleaning service when an overall soiled condition has been reached.
Code SW	Spot clean, with a mild solvent, an upholstery shampoo, or the foam from a mild detergent. When using solvent or dry cleaning product, clean only in a well-ventilated room. Avoid any product which contains Carbon Tetrachloride or other toxic materials. Pretest small area before proceeding. Use a professional furniture cleaning service when an overall soiled condition has been reached.

Source: Carpet and Rug Institute.

⇨ ***Figure 12.7***



ployees assemble and arrange the new furniture in the home according to the instructions of the designer or client. This service promotes good public relations.

The designer should explain furniture placement details to the delivery person(s) before he or she leaves the store with the furniture. This communication allows the furniture to be placed efficiently. Delivery people should be familiar with the store policy regarding damage to furniture. This includes the store's furniture as well as the client's furniture. The manager or supervisor of delivery should be notified immediately of any damage so that a satisfactory solution can be found quickly. Delivery people should understand these policies before going into a client's home.

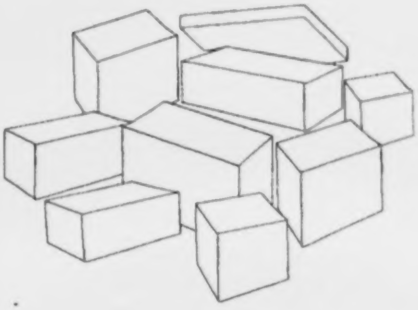
Unpacking

Furniture shipped from a factory usually is packed carefully. Various substances can be packed around the items to keep them from moving around and scratching another piece during shipment. ***Excelsior***, a straw-like substance made of fine wood shavings, is often used for packing. Newspaper cuttings, shredded tissue paper, polystyrene forms, and other substances are used.

When handling furniture for packing or delivery, it is essential to remember that all incoming furnishings should be unpacked and inspected in front of the freight company representative in case damage has occurred during shipment. This is beneficial in determining who will pay for the repair–the manufacturer, freight company, or the store.

Packing

A ***packing slip*** is a piece of paper that indicates the items that should be in the box. The items are identified on the packing slip by item number, description, sidemark, and reference to the purchase order number. Packing slips are placed on the outside of the box in a plastic pouch or are located inside the box. A ***sidemark*** refers to additional information, such as the customer's last name and the designer's initials, that help identify an item. A custom order or special order may have information such as the customer's name, designer's name, and room description.



For ***stock*** (store merchandise or store supply) the word "stock" may be listed as the sidemark. This packing slip must be compared with the merchandise in the box or crate to determine if the numbers and descriptions are the same. The packing slip also should be compared with the purchase order to determine that the correct merchandise was sent.

The more expensive case goods and upholstered pieces are shipped in wooden crates. Great care must be taken when disassembling these crates. A crowbar should be used to pry up the top boards. All protruding nails should be removed with a claw hammer. Next, the top layer of the packing materials should be removed. Some businesses prefer to save this packing for future packing purposes. Each piece should be removed carefully to avoid breakage or other damage.

Each item should be numbered as it is on the purchase order and packing slip. If a piece of furniture does not have a number, the correct number should be marked on the piece. This not only helps check the order, but also helps when pricing. This enables the correct price to be placed on the correct piece. The items then should be put in a designated spot in neat order until they are priced and ready to be delivered or put on the showroom floor.

All packing materials should be checked carefully to be sure all pieces or parts have been removed. All missing pieces and damage should be reported to the proper supervisor. A claim form may need to be completed if an item is missing or has been broken.

Handling Furniture and Accessories

When handling furniture for delivery or for a move within the store, a number of safety techniques must be followed. Some stores use dollies while some prefer to lift and carry all pieces by hand. There may be less danger of bumping into other furniture, doors, walls, or woodwork by carrying all pieces by hand than when using the rolling dolly. Dollies are convenient for heavy or bulky items.

A three-wheel platform allows one person to handle a large sofa or other large piece of furniture. The person can lift one end of the furniture and place it on the platform, then lift the other end and roll the furniture. Clean, white cotton or plastic gloves are recommended when handling furniture to protect it from oil or soil on the hands.

Accessory items should never be placed on velvet or light-colored upholstered furniture. These items might crush the pile of the velvet or soil light-colored, delicate fabrics. Felt pads should be used on the bottoms of accessories to be placed on case goods. The felt pads will protect wooden surfaces from

scratches. Porcelain bowls, candlesticks, and other such items can scratch a wooden surface quite easily if it is not protected.

Furniture placed on a truck must be protected from bumping and rubbing against other pieces or against the sides of the truck or van. Quilted pads and covers are used for protection under these circumstances. These pads are made of durable fabrics with thick inner padding. They should be placed around and over the furniture to protect corners and surfaces. Upholstered pieces may be covered with clean plastic first to eliminate the hazard of soil on the fabric.

Furniture with removable mirror or glass sections should be dismantled at the store and each piece should be wrapped separately with heavy pads to completely cover the mirror or glass. If a piece of furniture or accessory needs to be taken apart to be moved, each piece should be marked so that it can be assembled again correctly. Often the person asked to reassemble an item will have never seen it as one piece.

When lifting furniture for delivery or for moving, a person should grasp the piece firmly on the bottom wood section. To lift a sofa or chair that has a decorative skirt, the skirt should be lifted up; then, the underside of the furniture can be grasped. Lifting heavy pieces of furniture can lead to injuries if correct lifting procedures are not followed.

◆ Essential Questions: ◆
Preparing Furnishings for Delivery

1. What important point should be remembered when unpacking furniture?
2. Why is it important to check all packing materials when unpacking new furniture?
3. Why are accessory items never placed on velvet or light-colored upholstery?
4. What is the purpose of felt pads?

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Chapter Highlights

- The first thing to tell individuals who are shopping for furniture is to think carefully about the needs of the people who will be living in the room. Knowing family living activities, room sizes, the amount of money that they can comfortably afford to spend on furniture, and how long they anticipate the furniture to last, will help them to determine which furniture to select.

- There are two main categories of furnishings: case goods and upholstered goods. Case goods include items that are not upholstered, such as solid wood dining chairs, beds, tables, chests, cabinets, secretaries, desks, and other storage pieces. Upholstered goods include chairs, sofas, ottomans, and benches that have fabric coverings.

- Wood, metals, plastics, and fabrics are the primary materials used to make furniture. Good workmanship refers to construction techniques used in fastening pieces together to form sturdy furnishings that will hold their shape and be durable for a long time.

- When looking for quality in furnishings, the primary considerations are the materials, the construction, and the finish.

- Hardwood is generally preferred over softwood for quality furniture. Hardwood has greater stability and is more durable. Hardwood holds nails and screws better and is less likely to dent.

- Joints affect the quality of furniture. Quality furnishings have strong, firm, and carefully matched joints. The construction of quality joints is expensive and time consuming.

- Furniture hardware includes handles, keyhole plates, hinges, and handle plates. Solid brass is popular for its durability and its appearance. A person should look for an indication that the hardware is solid brass. Less expensive hardware may be made of steel with a finish applied that looks like brass.

- Finishes are substances such as lacquer, paint, varnish, or plastic that are applied to exterior surfaces. A quality finish enhances the natural beauty of wood and seals it. This protects it against moisture and wear.

- An upholstered piece should have a heavy frame made of kiln-dried hardwood with double doweled joints glued for reinforcement. In addition, all corners should be corner-blocked and screwed.

- Tightly woven cover fabrics are the most durable. They also should be comfortable, durable, attractive, and soil resistant.

Chapter 13

Fabrics, Textiles, and Leather

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

2A Analyze characteristics of materials and workmanship in relationship to durability and use.
2B Identify characteristics of materials and workmanship in relationship to appearance, performance, use, and care of furnishings.
2C Explain labeling requirements and appropriate procedures for the care of various furnishings.
3C Describe trends in materials, accessories, lighting, and space utilization.

Chapter Vocabulary

acetate
acrylic
basket weave
cellulose
cotton
fabrics
fabric finish
felted
fibers
figure weaves
flax
generic name
hemp
jute
knit
lappet weave
leather
linen
manufactured fibers
natural fibers
nylon
pile weave
plain weave
polyester
ramie
rayon
rib weave
satin weaves
selvage
silk
spot weaves
swivel weave
textiles
trade name
twill weave
vinyl
warp
weaving
weft
wool

FABRICS AND TEXTILES

The terms fabrics and textiles are often used interchangeably even though they do not mean the same thing. ***Fabrics*** include any kind of cloth. They may be woven, knitted, felted, or tufted. The word ***textiles*** is used to describe materials such as fibers and yarns that can be used to make fabric. Cloth constructed from these materials may also be referred to as textiles. Cloth may be made in several different ways.

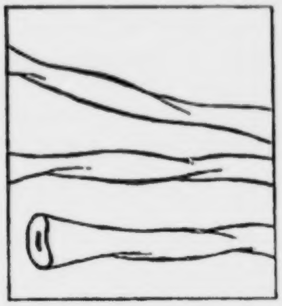
Weaving interlaces two systems of yarn that are at right angles to each other. The ***warp*** threads are the lengthwise threads and the ***weft*** or filling threads are the crosswise threads. ***Knit*** fabric is made of one or more yarns lying in the same direction having loops interlaced. ***Felted*** fabrics are made from wool, hair, or fur that are matted together by chemical action, moisture, heat, or pressure. A tufted fabric is made by placing extra yarn into the openings of an existing backing fabric similar to the tufting process in carpeting. This method of making fabric is rarely used in interiors except in carpeting.

Fibers are the basic strands from which yarns are spun. There are two basic types of fibers called natural and manufactured. The ***natural fibers*** come from animals and plants. This group includes cotton, flax, jute, hemp, ramie, silk, and wool. The ***manufactured fibers*** include those made from cellulose, chemicals having a mineral base, and chemicals taken from other substances. Manufactured fibers include rayon, acetate, nylon, and polyester.

The construction of fabrics gives them the characteristics that are recognizable. Fabric may be made from natural or manufactured fibers. They also can be constructed with a combination of natural and manufactured fibers. Fabric finishes may be added to fabrics to give them more desirable characteristics. Natural and manufactured fibers have been mentioned in previous chapters. Their characteristics are important to furnishings design, construction, use, and care.

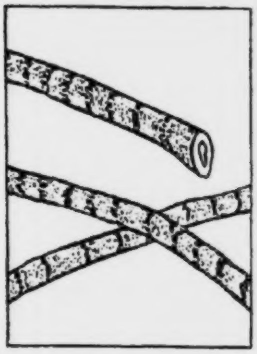
Natural Fibers

Natural fibers are those fibers that come from plants or animals. They include cotton, flax, jute, hemp, ramie, silk, and wool.



Cotton is the soft, white seed hair that come from the boll of the cotton plant. The fibers can vary in length up to two inches. Even with the rapid rise and popularity of manufactured fabrics, cotton still rates high in versatility, economy, and durability. Cotton accepts dyes well and has no static. Cotton also can be made stain resistant, water repellent, and wrinkle resistant. It can be laminated or bonded to other fabrics. It is a natural fiber that can be washed and ironed at high temperatures. Cotton fabrics range in weight from thin gauze to heavy upholstery twill or canvas. Medium-weight cottons are often used for curtains, slipcovers, bedspreads, and household linens

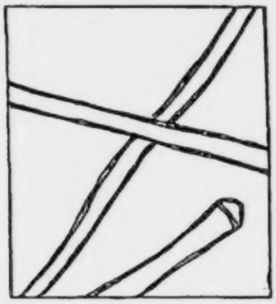
Flax fibers come from the stem of the flax plant. Yarn and fabric made of flax is called linen. ***Linen*** is made from flax fibers. It is more expensive than cotton, but still has most of cotton's qualities. Linen is mothproof, can be treated to become mildew resistant, and can also be made wrinkle resistant. Linen can be used in a variety of weaves and also can be blended with other fibers to produce a pleasing appearance and a less expensive fabric. Linen is strong and accepts dyes well. It has natural crispness, strength, and luster, which



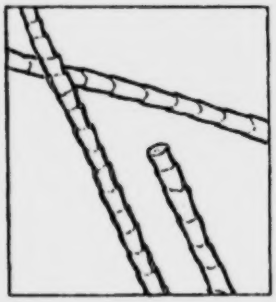
are especially good for draperies and upholstery. Linens are available in a wide range of weights. Those used for curtains, slipcovers, bedspreads, and upholstery are usually heavy, fairly course fabrics.

Jute fibers come from the jute plant. They are long and creamy white to brown. Jute resembles linen but is much more coarse and less resilient. Jute is used to make burlap. It has a low resistance to light, is brittle, and breaks or splits easily. ***Hemp*** is a stiff, coarse fiber from the inner bark of the hemp plant. It is only made into heavy, rough fabrics. It is used primarily in carpets and rugs.

Ramie is a fiber from the stem of a plant that is grown in warm climates. The fiber is separated from the stalk and is white and soft. It is strong and durable but is not elastic or resistant to abrasion.



Silk fibers come from the silkworm's spun cocoon. It was developed in China about 200 BC. The fiber is very fine and very long. It can be as long as several hundred yards. It is the strongest of the natural fibers. It is wrinkle resistant, mildew resistant, and moth-proof, and it absorbs dyes well. Silk is the most luxurious and beautiful of the natural fibers. Silk is soft, yet strong. Silk is expensive and deteriorates in sunlight. It is often used in furnishings because of its luxurious appearance. Silk appears delicate, but it is a strong fiber. Silks come in different weights, which are used for upholstery, slipcovers, and bedspreads.



Wool is probably the oldest of all fibers and comes from the fleece of sheep, llamas, goats, and alpacas. The length of the wool fiber varies considerably. Wool is often blended with cotton or manufactured fibers. It tends to soil easily, but can be treated to be soil resistant. Wool fabric is very resilient, durable, and easily cleaned, and it accepts dyes well. Wool is used for upholstery and for drapes but is used primarily in carpeting. The characteristics of wool make it an ideal fabric for furnishings. Wool fabrics can be found in every weight. A sheer, gauzy wool makes attractive curtains. A heavy, durable wool fabric can be used for upholstery and carpets. The durability of woolen fabrics can override the fact that they are more expensive.

Manufactured Fibers

Manufactured fibers are a fairly recent development of the textile industry. Their use has greatly increased the number of textile products available. Manufactured fibers can look like natural fibers or can have characteristics all their own.

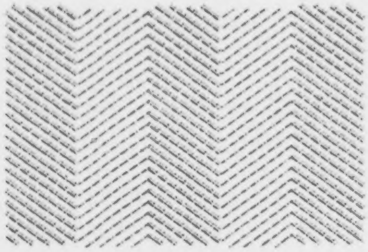
Manufactured fibers in current use are either cellulosic or chemical. ***Cellulose***, which is produced by plants, is the natural raw material from which the manufactured fibers rayon, acetate, and triacetate are made. Other fibers are composed entirely of chemicals although chemicals are used to make all manufactured fibers. Manufactured fibers are made in a way that is similar to the natural way silk is made. A solution is forced through a tiny hole and solidifies into a continuous filament when it comes in contact with the air or a chemical bath. Examples of these manufactured fibers are nylon, acrylic, and polyester.

Manufacturing companies are required to identify their product by name. The name that is used to designate the product of a company is called the ***trade name***. There are hundreds of such names, which make it confusing to the consumer. The consumer needs to know the various families. Each family has a ***generic name***, which is the common name for natural or manufactured fibers. The Federal Trade Commission (FTC) requires the generic name to appear on the label of all textiles. Each member of the same generic family has the same characteristics. Names of the fibers listed below are generic names. Cotton, wool, and silk are also generic names.

Rayon was produced in the nineteenth century and was originally intended as a substitute for silk. It is derived from the cellulose of trees and is marketed under numerous trade names today. Rayon wears well, is resistant to sunlight, absorbs color well, drapes well, and is inexpensive. It can be used for draperies and upholstery.

Acetate is made up of compounds derived from cellulose and other chemicals. It is weaker than rayon and is blended with other fibers, such as wool, to reduce its cost. Acetate drapes well. It is the least expensive of the manufactured fibers. It tends to fade in the sunlight. It is used to make bedspreads, draperies, and some upholstery items.

Nylon is a manufactured fiber made from a group of chemical compounds classified as polyamides, which are derived from coal and petroleum. It is very strong, resistant to abrasion and mildew, and mothproof. It is easy to dye and resists fading. Nylon is very durable. It wears longer than any of the other fibers and is relatively inexpensive. Nylon may be used to make draperies, upholstery items, and carpeting. It is not used for sheers because sunlight causes it to deteriorate.



Polyester is produced from coal, air, water, and petroleum. It is wrinkle resistant and washable, and it is resistant to deterioration by sunlight. It can be blended with wool, rayon, nylon, and cotton. Polyester resists mildew and cleans well. It is used in curtains, drapery, upholstery, and some carpeting.

Acrylic is derived from a material that is made from air and natural gas. This fiber is soft, long wearing, resilient, resists sunlight, and cleans well. Acrylic is also wrinkle resistant. It is used for carpeting and is more like wool than any of the other manufactured fibers.

Olefin is a man-made synthetic fiber used primarily for carpets and upholstery. It is very durable, economical, has good resilience, and is easy to clean. Olefin is also used for indoor-outdoor carpets, carpet backing, and artificial turf.

Vinyl is the general name that is applied to any group of thermoplastic resins. It is stain resistant, scrubbable, and available in a wide range of colors. It is used for wall coverings, shower curtains, and many floor coverings.

Approximately 45 percent of manufactured fibers are used in furnishings in the United States. The manufactured fibers provide 80 percent of the fibers used in carpets, sheets, draperies, and upholstery fabrics.

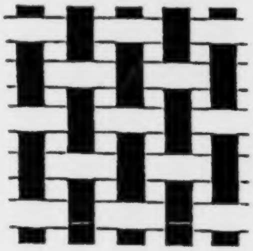
Each year scientists and manufacturers make new discoveries about textiles. These discoveries lead to the creation of new fabrics that have many different uses. Such developments as new fabrics, new blends, and new finishes have made changes necessary in textile labeling, standards, and legislation. However, familiarity with the most commonly used natural and manufactured fabrics can give an interior design assistant or sales assistant a basic understanding of both textile characteristics and of the procedures for handling these fabrics in upholstery, draperies, and accessories.

Fabric Construction

Woven fabrics are those that have two or more sets of yarns that interlace at right angles to produce a fabric. The two yarns are called the warp and the weft. The warp yarns run lengthwise or parallel to the selvage. The weft or filling yarns run perpendicular to the selvage. The ***selvage*** is the narrow woven edge of fabric constructed stronger to prevent raveling.

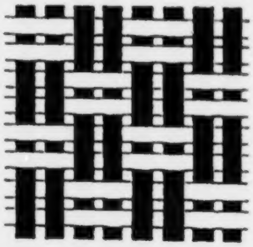
There are several types of weaves, but the three basic weaves are plain, twill, and satin. All other types of weaves are variations or combinations of these three types.

The ***plain weave*** is simplest of the weaves. The warp yarns simply pass alternately over and under each weft yarn. Unless one side is printed or a definite face is produced by a special finish, the fabric is reversible. Plain weave fabrics are firm, wear well, and seldom ravel. Unfortunately, they show wrinkles and are somewhat uninteresting in appearance.

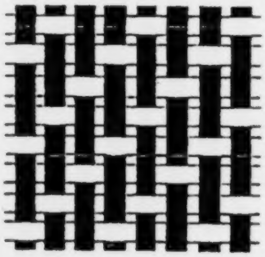


The ***rib weave*** is a simple variation of the plain weave. The rib weave is produced several ways. The warp or weft yarns may be heavier or there may be more warp than weft yarns to create the desired look.

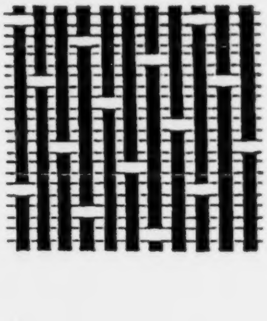
Another variation of the plain weave is the ***basket weave***. In this construction, there are two or more yarns woven as one in both the warp and the filling direction. The fabric then takes on a basket effect. These fabrics may stretch or shrink and can be difficult to sew.



The ***twill weave*** has parallel, diagonal lines formed by yarns floating on the surface. These lines can vary in angle from a low slope to a very steep slope. The twill weaves are heavier and sturdier than the plain weaves and can be produced in many fancy designs.



Satin weaves are characterized by long, floating warp yarns that produce a glossy look and feel on one side of the fabric. In this weave, warp yarns float or pass over four or more filling yarns in a regular pattern. The weave can differ with the combinations of yarns



and weight of fabric. The long floats of satin weave do produce a smooth surface on one side, but they may also contribute to poor wearing performance. These floats are susceptible to snagging and abrasion. The more yarns per inch, the better the wear.

Tapestry fabrics are elaborate designs woven on intricately constructed looms called jacquard looms. It takes quite some time to set up the loom for these designs, thus resulting in the high cost of tapestry, brocade, and damask fabrics. These fabrics are heavy and durable, but some designs have long floats like the satin weaves, which can result in snags.

Velveteen, velvet, and corduroy are examples of a pile weave. The fibers used for making velvet are much finer than those used to make corduroy. The ***pile weave*** is made up of cut or uncut loops that stand up from the fabric. This results in a thick, three-dimensional fabric compared to the flat cloths formed by other weaves.

Figure weaves are weaves that produce a patterned fabric. They are made by adding extra warp or filling yarns. The three variations are the swivel, lappet, and the dot or spot weave.

The ***swivel weave*** has extra filling yarns, which are introduced to create the design on the base fabric. Extra filling yarns appear on the back of the fabric during the weaving process, but are cut afterwards.

In the ***lappet weave***, extra warp yarns are introduced to create the design on the base fabric. Long floats are usually formed on the back of the fabric, which are usually clipped, leaving only a small design. If the flats are relatively short, they are not removed. It is a very durable, yet expensive weave.

The dot or ***spot weaves*** are made with either warp or filling yarns. These yarns are inserted the entire length of the fabric in predetermined designs. Examples of this weave are dotted Swiss and fringed fabrics.

Fabric Finishes

A ***fabric finish*** is a treatment applied to the surface of a fabric to improve its appearance or to make its care easier. Stain resistant, moth repellent, water repellent, waterproof, and soil release are all forms of fabric finishes. Permanent and temporary finishes may be applied to fabrics to increase durability, change appearance, reduce staining, or increase attractiveness. A permanent finish lasts the life of the fabric and a temporary finish lasts until the fabric is laundered or dry cleaned. Many upholstery fabrics are treated with some type of finish.

Finishes can add to fabrics the special characteristics that are needed for household use. Bedding and draperies for public buildings can be given flame-resistant finishes. Draperies and bedding also can be given antiodor and antiperspiration finishes. Many fabrics for household use have stain-resistant finishes. Finishes are also given that reduce static and damage caused by moths and mildew. A permanent-press finish is popular for sheets, draperies, and curtain fabrics.

Fabric Selection

A fabric can seem masculine or feminine or formal or casual because of its construction. A fabric's durability also is affected by the way it is made. Certain fabrics are associated with particular styles of furniture.

Fabrics such as Jacquard weaves, chintzes, and satins contribute richness and elegance to rooms done in Sheraton, Queen Anne, Hepplewhite, and Chippendale periods. Velvets, wool damasks, and heavy brocades lend themselves to Italian, Spanish, and Mediterranean rooms.

Modern rooms call for linens, polished cottons, taffetas, velvet, and familiar fabrics such as cotton and unbleached muslin. Bright, fresh colors in plain or print fabric are good for this style.

In Early American rooms, homespun effects, such as various patterns on quilts or woven-in designs or stripes combined with quaint patterned chintzes, are very effective. Chintz and textured fabrics with scenic designs are often used for this style. Nautical prints, drawings of colonial homes, quilted prints, and large floral prints are also characteristic of this style.

Frills in taffeta or organdy tend to make a room feminine. Heavy fabrics and leathers tend to give rooms a masculine appearance. Formal rooms are done in silk damasks and heavy brocades, while casual or informal rooms have many linens, chintzes, and cottons.

Traditional styles call for elegant fabrics such as satin and soft floral prints. Damasks, velvets, and brocades are also good traditional fabrics. Brocades are heavy fabrics with raised floral or figured patterns and contrasting surfaces or colors.

In categorizing fabrics, it is important to realize that some fabrics are better for some purposes than others. For example, heavy-weight fabrics are wonderful for upholstering sofas, chairs, and cornices, but would be too heavy for draperies. Light to medium weight fabrics work best on draperies and bed ensembles. Extremely light, transparent fabrics work well for constructing drapery sheers or for cascading a valance over a canopy bed to add softness.

When the incorrect fabric is chosen for a chair, the result will be a fabric that does not wear well and must be replaced quickly. When draperies are being made, it is important to use a fabric that will hang and drape well.

◆ Essential Questions: ◆ Fabrics and Textiles

1. What is the difference between fabrics and textiles?
2. How are manufactured fibers made?
3. What are three examples of manufactured fibers?
4. What are woven fabrics?
5. What is the purpose of the selvage?
6. What are the three basic weaves?
7. What is the purpose of fabric finishes?
8. Why is it important to choose a fabric according to its use?

LEATHER

Leather is a material of animal skin prepared by the removal of the hair and tanning. It is a by-product of the meat-packing industry. Cattle have never been raised for their hides alone. In fact, if not for the leather industry, this remarkable resource would go to waste. It is not actually a fiber or fabric, but it is often used in upholstery. Figure 13.1 discusses how the different hides are used for consumer products.

Leather is one of the most durable and environmentally-sound upholstery materials available. Leather stands up to wear and tear that would ruin other upholstery materials. It defies fashion trends that render some fabrics obsolete and its processing has minimal impact on the environment. Leathers dye well and are moisture resistant. Such leathers as cowhide and steer hide are very expensive.

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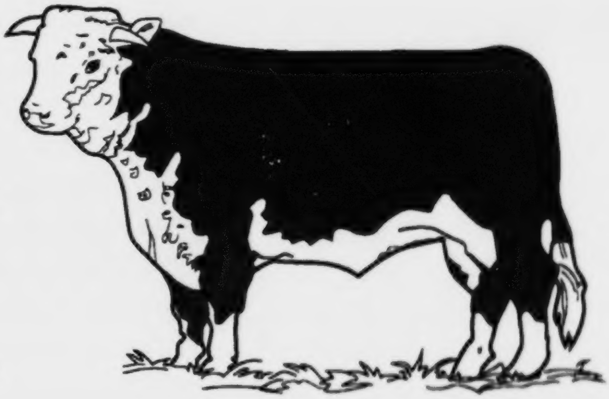
Leather Upholstery

Only one-third of all the hides produced worldwide are suitable for upholstery. Only 5% of the worldwide hide supply possess the aesthetic qualities necessary to become Pure or Full Aniline. Semi-Anilines comprise the balance of the total hide supply suitable for upholstery leather. They may be either full grain or enhanced with various grains and effects. The remaining hides find their way into products such as shoes, belts, handbags, and work gloves. And yet, at the cash register, when leather is factored into the total cost of the product, the consumer pays less for the higher quality leather used for upholstery.



⇨ ***Figure 13.1***

For this reason, imitation leather made of plastic-coated fabric often is used instead. A glossary of terms used in the leather industry is shown in Table 13.1.

The Tanning of Leather

Hides arrive at the tannery heavy and stiff with hair intact. They bear no resemblance to what they become. It is the tannery's job to convert these raw hides into finished leather, ready for the manufacturer.

Hides first undergo a soaking and liming process to remove the hair. They are then split into their approximate finished thickness by passing through a precise cylindrical blade, which cuts the hide into two layers – the upper portion called "top grain" and the bottom portion called a "split." The top grain layer is the superior portion of the hide, which makes the most aesthetically pleasing and durable of leathers. After splitting, the hides are tanned. They are now stabilized and can last for many years.

Over its life, every hide acquires a personality. The inevitable accumulation of wrinkles and stretch marks, run-ins with barbed wire, encounters with insects, thorns, and branding irons all leave "beauty marks." All of these events combine to give each hide a distinct character. The most aesthetically-pleasing hides are selected for minimal processing. The rest are processed for consistency. Some people find this consistency more pleasing than leathers in a more natural state.

Leather Glossary

Aniline Dyed
Process that uses transparent nontoxic dyes to color leather throughout.

Aniline Plus®
Leather that has been aniline dyed and slightly pigmented with a clear top coat to ensure more even color consistency and protection against spills and stains. Also known as Semi-Aniline.

Corrected Grain
Leather on which the outer surface of the grain has been lightly removed by sanding.

Crocking
Transferring of a color or finish from leather to other materials by rubbing or abrasion.

Crust
Leather that has been tanned, dyed, and dried, but finished.

Drum Dyed
A dyeing process in which leather is immersed in dye and tumbled in a rotating drum, thus ensuring maximum dye penetration.

Embossing
Impressing a pattern onto the surface of the hide to create a motif or texture. A very even and uniform pattern is created, possibly to disguise natural defects or blemishes, or to create visually exciting designs.

Fatliquoring
The process of replacing the oils that have been leached from the hide during the processing.

Fat Wrinkle
Natural wrinkles in the leather grain that are a part of the unique beauty. These are only visible in top grain leathers.

Finishing
Any processing performed after the initial dyeing such as buffing, embossing, flameproofing, milling, spraying, waterproofing, waxing, etc.

Full Aniline
Leather receiving its color from dyes and also a topical stain, wax, and/or water repellent.

Full Grain
The outer layer taken from the hide's hair side with only the hair and surface debris removed. Also referred to as full top grain.

Hand
Term that describes leather's softness and feel.

Hand Antiqued
Also referred to as "hand rubbing." The process where skilled craftsmen hand rub a contrasting color onto the surface of the leather to accentuate the natural grain or embossing.

Hides
Skins of large animals, almost always from cattle.

Leather
A hide, or skin, that has been tanned into a non-perishable material.

Lining
The process of removing hair from a raw hide through the use of chemicals.

Milling
Process in which tanned hides are tumbled in rotating drums using a combination of heat and a misting of water to soften the hand or enhance the grain.

Natural Grain
Leather whose grain has not been altered in any way, so the natural appearance of the grain is apparent.

Nubuck Aniline
A top grain aniline dyed leather from which the top hair cell layer has been removed through buffing to create a "suede like" nap effect.

Patina
A surface luster that develops on pure anilines and nubucks; grows more beautiful with the passing of time.

Pigmented
Leather whose surface is coated with pigment or other opaque solution.

Polishing/Buffing
Removing of grain, scars, and blemishes from a hide.

Pull-up
Refers to leather that derives color from dyes, waxes, and/or oils. When this leather is pulled during upholstering, the oils/waxes dissipate and become lighter in those areas.

Pure Aniline
Leather which receives its only color from dyes and exhibits natural markings and characteristics.

Sauvage/Kela
A two-tone effect which adds depth and character. Can be tone-on-tone or a contrasting effect.

Split
The under portion of a hide or skin that has been split into two or more thickness. Splits may be finished and embossed to simulate a full top grain.

Sueded Splits
Leather produced from the flesh split, exhibiting a velvet-like nap. Sueded splits are not top grain leathers.

⇨ Table 13.1

Leather Glossary

Tanning
The process of converting a raw hide into a stable, non-perishable state.

Top Coat
Synthetic transparent design applied as a protective coating from a high gloss to a matte finish.

Top Grain
The top layer of hide after the spliting process in which the hair and epidermis have been removed. The grain may be either natural or embossed.

Source: Lockawana Leather

⇨ *Table 13.1, cont'd.*

After inspection and grading, the hides are shaved for uniformity. Then, natural oils and lubricants are replenished in a process called fat liquoring, and the hides are stretched and dried to ensure maximum elasticity.

Hides receive their first exposure to color in the "retanning," or dyeing, stage. Called "aniline dye," the liquid is translucent and permeates the hide, much like stain on wood. These dyes do not camouflage, rather, they tend to bring out the natural character of the leather. Also called "True Aniline" or "Naked Aniline," Pure Aniline receives its only color during the tanning process. Pure Aniline is the most honest expression of leather available. Pure Aniline gets better with age, absorbing minor scratches and nicks gracefully.

Cell structure of each hide determines how the dye is absorbed. Loose areas like the belly, for instance, typically accept more dye and appear darker. These subtle shading variations indicate that the hide has been purely dyed. Finishing can include any number of techniques such as buffing, polishing, waxing, application of topcoats and water repellents, embossing, or hand antiquing.

All of these techniques produce a desired effect, whether it is for aesthetic or performance reasons. For example, a household full of spill-prone children will want a stain-resistant leather, while an exclusive New York club might prefer a minimally processed, naturally-marked leather.

Care of Leather

Although tough and long lasting, leather and suede furniture is stained easily. The key is to blot up the spill as quickly at possible. If spills are not attended to immediately, a stain will surely result.

Gently vacuuming leather furniture prevents everyday dirt and grime from eventually soiling the surface. Leather furniture should be kept away from very hot or damp places. It should be dusted with a damp cloth and cleaned with a leather polish or saddle soap. Ordinary polish or wax should never be used on leather. It is important to check the manufacturer's suggestions for cleaning leather items.

◆ Essential Questions: ◆ Leather

1. Why is leather a popular choice for upholstery?
2. What is "top grain" leather?
3. What steps are involved in the tanning process?
4. What is the recommended care for leather?

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Chapter Highlights

- The terms fabrics and textiles are often used interchangeably even though they do not mean the same thing. Fabrics include any kind of cloth. They may be woven, knitted, felted, or tufted. The word textiles is used to describe materials such as fibers and yarns that can be used to make fabric.
- Weaving interlaces two systems of yarn that are at right angles to each other. The warp threads are the lengthwise threads and the weft or filling threads are the crosswise threads.
- The natural fibers come from animals and plants. This group includes cotton, flax, jute, hemp, ramie, silk, and wool. The manufactured fibers include those made from cellulose, chemicals having a mineral base, and chemicals taken from other substances. Manufactured fibers include rayon, acetate, nylon, and polyester.
- The construction of fabrics gives them the characteristics that are recognizable.
- Fabric may be made from natural or manufactured fibers. They also can be constructed with a combination of natural and manufactured fibers.
- Approximately 45 percent of manufactured fibers are used in furnishings in the United States. The manufactured fibers provide 80 percent of the fibers used in carpets, sheets, draperies, and upholstery fabrics.
- There are several types of weaves, but the three basic weaves are plain, twill, and satin. All other types of weaves are variations or combinations of these three types.
- Stain resistant, moth repellent, water repellent, waterproof, and soil release are all forms of fabric finishes. Permanent and temporary finishes may be applied to fabrics to increase durability, change appearance, reduce staining, or increase attractiveness.
- A fabric can seem masculine or feminine or formal or casual because of its construction. A fabric's durability also is affected by the way it is made. Certain fabrics are associated with particular styles of furniture.
- In categorizing fabrics, it is important to realize that some fabrics are better for some purposes than others. For example, heavyweight fabrics are wonderful for upholstering sofas, chairs, and cornices, but would be too heavy for draperies.
- Leather is a material of animal skin prepared by the removal of the hair and tanning. It is not actually a fiber or fabric, but it is often used in upholstery.

Chapter 14

Windows and Window Treatments

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

1E Apply guidelines for coordinating furnishings.

2A Analyze characteristics of materials and workmanship in relationship to durability and use.

2B Identify characteristics of materials and workmanship in relationship to appearance, performance, use, and care of furnishings.

3D Illustrate appropriate window treatments for specific windows.

Chapter Vocabulary

aero-cellular acrylic lining
apron
Austrian shades
balloon shades
bay window
bow window
café curtains
cascade
casement window
colorfast
corner windows
cornice
dormer window
double-hung window
drapery hardware
drapery lining
draw draperies
fanlight
finial
fixed arched window
frame
French door
glass
hinged window
jalousie window
jamb or casing
lambrequin
laminated
opaque drapery linings
plantation shutters
printed fabrics
reflective drapery lining
roller shades
Roman shades
sash
shutters
sidelights
sill
solution-dyed fibers
swag
top treatments
valance
Venetian blinds

WINDOWS

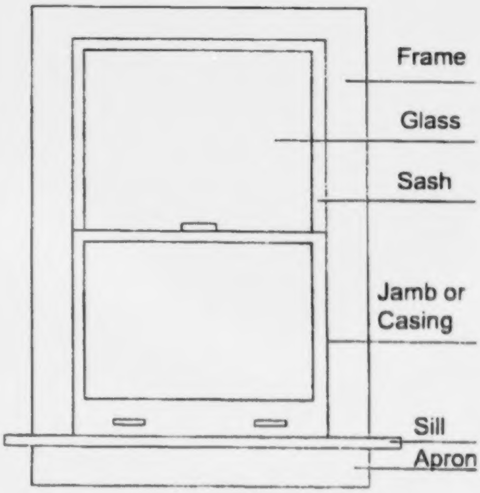
Windows serve a number of purposes. They control light, provide ventilation, reduce heat loss, and keep out the weather. Windows frame a view and serve as a decorative feature for both the inside and outside of a home or building.

The window is a noticeable element in the design of any building. Modern architecture has introduced many new types of windows. The size and type of window and the style of the architecture determine the kind of window treatment to be used. An interior design assistant or sales assistant should know the types and functions of windows in order to determine the best decorative treatment for them.

Knowing the parts of a window is important in communicating various treatments. The following fundamental parts of a window are illustrated below:

- ***Glass*** refers to the panes of a window.
- ***Sash*** is the wood or metal part that holds the glass.
- ***Sill*** is the narrow shelf at the bottom of the sash.
- ***Frame*** is the molding that covers the casing and frames the window.
- ***Jamb*** or ***casing*** is the depth of the window that fits into the wall.
- ***Apron*** is the part of the frame below the sill.

Figure 14.1 shows the parts of a window.



⇨ *Figure 14.1*

There are three basic types of windows: sliding, hinged, and fixed or picture windows. Sliding windows open up and down or from side to side. ***Hinged windows*** have hinges on which they can be swung open. Fixed or picture windows cannot be opened.

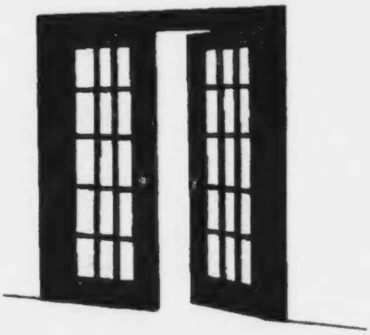
The most widely used window is the ***double-hung window***. It consists of two sashes that can either be lowered or raised. This type of window has been used in the United States for about 250 years.

The ***casement window***, or hinged window, has hinges on one side of the sash so that the window can be swung open. The jalousie window is closely related to the hinged window. The ***jalousie window*** has narrow horizontal strips of glass that can be cranked open. ***Corner windows*** consist of two or more windows that come together at a corner.

The bay and bow windows are generally a group of windows that project beyond the face of the exterior wall. When the projection is angular, it is called a ***bay window***. When the projection is rounded, it is called a ***bow window***.

A ***dormer window*** is a small window that is set vertically and projects from a sloping roof in an alcove-like extension.

A ***French door*** is really a window that opens in the same manner as a door. It is usually an opening onto a porch or balcony.



Sidelights are narrow, vertical windows on either side of a door. They let in light and allow the person inside to see a caller at the front door.

A ***fixed arched window*** is a window that is arched at the top. Closely related to the fixed arched window is the fanlight. The ***fanlight*** is a semicircular window usually found above a door. It resembles a fan due to the shape and placement of the panes.

The window is an important part of a building. Types of windows are illustrated in Figure 14.2. Many window treatments are available for use on different types of windows. The size and type of window and the style of the architecture determine the kind of window treatment to be used.

◆ ***Essential Questions:*** ◆
Windows

1. What are six purposes of windows?
2. What determines the type of window treatment to use?
3. What are the six parts of a window? Describe each part.
4. What are the three basic types of windows? Explain the differences.

WINDOW TREATMENTS

Different windows require different window treatments. Determining factors include architecture of the building, shape and placement of the window, size and use of the window, and the desired effect. Fabrics are a major consideration in achieving the desired effect.

There is no limit to the variations and designs that can be created using window treatments and the elements and principles of design. When a person combines the numerous types of treatments with the various fabrics and colors available, the possibilities are unlimited.

When considering treatments, a person should remember that the view from the outside must be considered along with the view from the inside. There are three purposes for window treatments. They control light and air and provide privacy. They also complement the overall design scheme of a room. Most of the time, one purpose will be more important to the client than the other.

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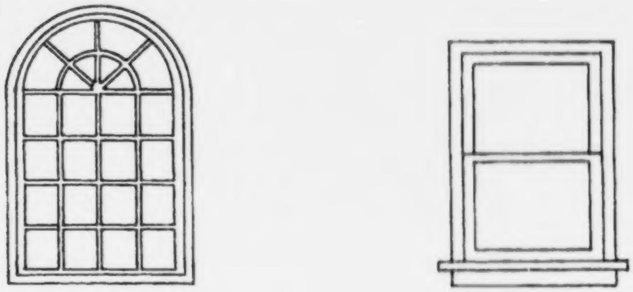
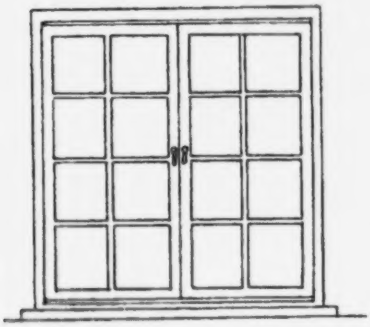
Types of Windows



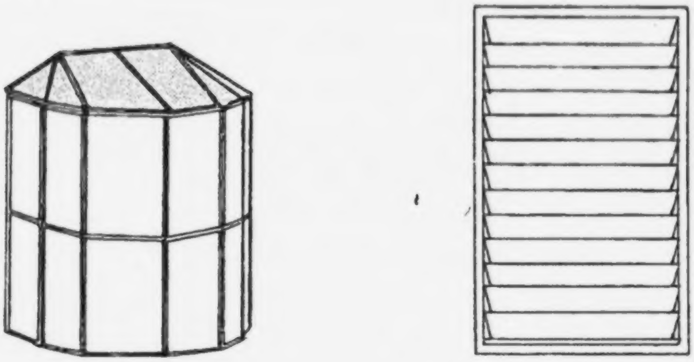
Fixed Arch

Double Hung



French Door

Casement

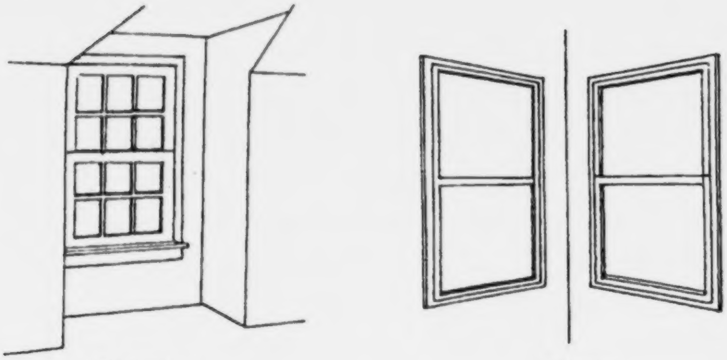


Bow

Jalousie

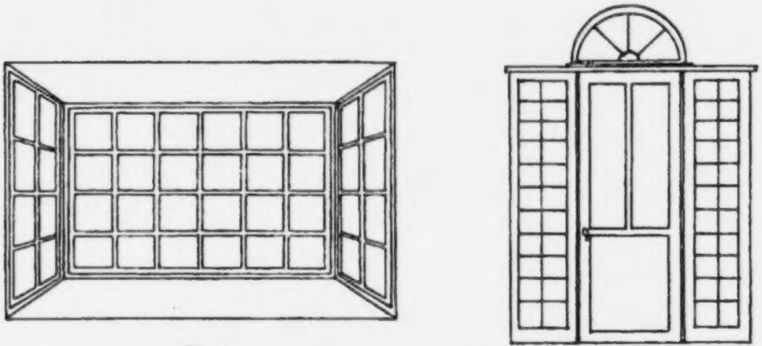
⇨ *Figure 14.2*

Types of Windows



Dormer

Corner



Bay

Sidelights and Fanlight

⇨ *Figure 14.2, cont'd.*

Types of Window Treatments

A proper window treatment can change the appearance of the window. For example, if the window or windows are out of proportion to the rest of the room, the right treatment can correct the problem. A treatment also must be able to withstand various conditions. Moisture, strong sunlight, and the frequency of use are important considerations. The fabric chosen must accommodate these needs and wants along with completing the design scheme of the room. Types of window treatments are discussed below. Figure 14.3 shows examples of window treatments.

Draw draperies (pinch pleated draperies) are hung on a traverse or decorative rod. (For information on drapery rods, refer to the section in this chapter on accessories for window treatments.) Pins are used to attach the drapes to the rod. The draperies can open in the center (two-way draw) or from the side (one-way draw). Two-way draw traverse draperies are probably the most popular and most often used window treatment. These draperies open from the center toward the outer edges of the window. They can be used alone or over sheers. This type of drapery can be used for almost any type of window, from the simple double-hung window to a wall of glass.

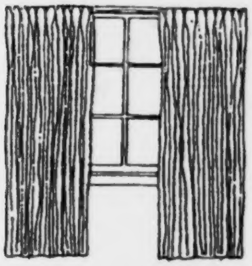
One-way draw traverse drapes are those that are drawn all to one side. These are best for walls of glass that may have little or no wall area on one side. They are also used for corner windows and door openings at one end.

Draperies are made of many fabrics and various materials. It is very important to learn the drapery fabrics used in your area because drapery care depends on the material used.

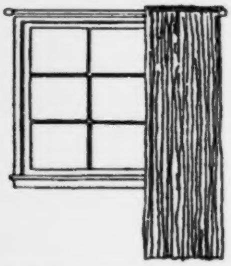
There is no fabric that is not resistant in one way or another to something whether it be soil, water, sunlight, wrinkling, creasing, or odors. All fabrics have different properties in terms of durability and colorfastness. Price should not be the only determining factor when selecting fabric. Yarn quality, thickness, colorfastness, and construction are important factors to consider before selecting a fabric. The type and amount of daily abuse to which the drapery will be subjected also should be considered. This includes exposure to sunlight, humidity, soil, and handling.

Loosely woven materials stretch, lose their shape, and eventually snag or sag. On the other hand, tapestries and damasks are not only luxurious, they are strong, especially if

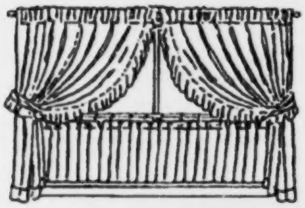
Window Treatments



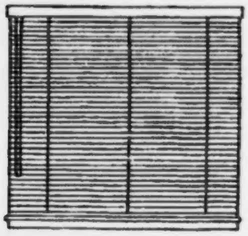
Two-way Draw Drapery



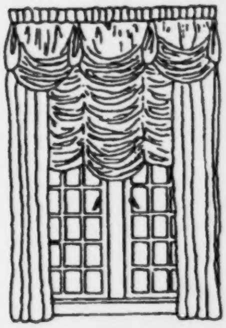
One-way Draw Drapery



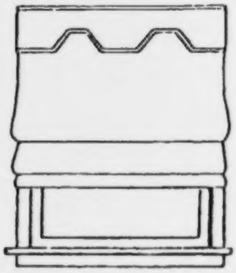
Cafe Curtains



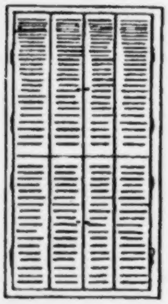
Miniblind



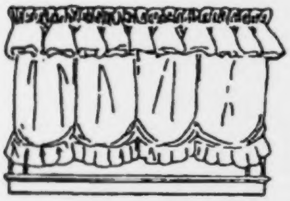
Austrian Shade



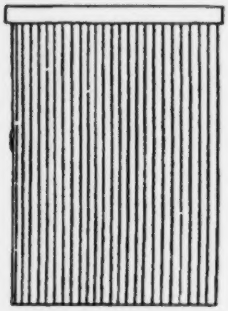
Roman Shade



Shutters



Balloon Curtain



Vertical Blind

⇨ ***Figure 14.3***

they are constructed of manufactured fibers. A fabric's life expectancy depends on the amount of exposure it receives. Many people believe that natural fibers are more durable than manufactured ones, but that is not always true.

Fabrics must be colorfast to resist exposure to the sun, water spotting, dry cleaning, and simply rubbing off. ***Colorfast*** means a fabric is able to keep its color without fading or bleeding. ***Solution-dyed fibers*** are those that are dyed before being spun into fibers. These solution-dyed fibers have a better chance of retaining color than fabrics that are printed. ***Printed fabrics*** refer to textile fabrics whose patterns are applied by dyes with stencils, rollers, blocks, or screens. With printed fabrics, the patterns and colors are more likely to rub off or fade.

Drapery lining is fabric used to cover the inner surfaces of draperies. It is a very important consideration. Draperies can be lined with a variety of fabrics. An appropriate weight for the drapery fabric should be chosen. Lining fabric should require the same care as draperies. Lining fabrics include cotton, sateen, satin, chintz, polished cotton, batiste, broadcloth, and percale. Metallic or thermal-insulated linings are available. They offer the extra advantages of keeping the heat inside during winter and keeping the sun's heat outside during summer. Lining fabrics are often neutral colors such as off-white, beige, or soft gray. However, linings can be selected in colors that match the draperies. Lining a drapery with a contrasting color is done less often, but it can be very effective.

Drapery lining is an important aspect of the fabric industry. Lining is used to cover inner surfaces of draperies. There are many different types of lining including the reflective, opaque, aero-cellular acrylic, and the plastic laminated linings.

With ***reflective drapery lining*** fabrics, plain weave cotton linings are coated on one side with metallic or colored flakes in a resin binder. This produces a shiny surface which is placed on the window side of the drapery. It reflects the rays of sunlight, not permitting them to penetrate the outer drapery fabric. This reduces the chance of damage and fading to the fabrics of the drapes as well as other household fabrics in the room. Dry cleaning may remove some of the reflective backing. A lining fabric that is loosely woven allows the finish to flake off more than a lining with a tightly woven weave.

Opaque drapery linings are fabrics that are coated on one side with a vinyl resin that makes the fabric opaque. The coating is available in silver, white, and black. The coating prevents light from passing through. The coating also stops the light inside from being seen on the outside. These coated drapery linings are used as blackout materials for rooms where movies are shown and in some hotel and motel rooms.

Aero-cellular acrylic lining serves as a lining and insulates against cold and heat. It also serves as an acoustical barrier. It can be dry-cleaned and is usually machine washable.

A drapery fabric can be ***laminated*** with a vinyl film which is bonded to the underside of the drapery fabric. This procedure eliminates the need for a separate lining. The film has reflective properties, insulation values, and acoustical values. Wet cleaning may result in damage and dry cleaning causes excessive shrinkage and separation of the film from the fabric. The vinyl film may yellow if exposed to excessive heat over an extended period of time.

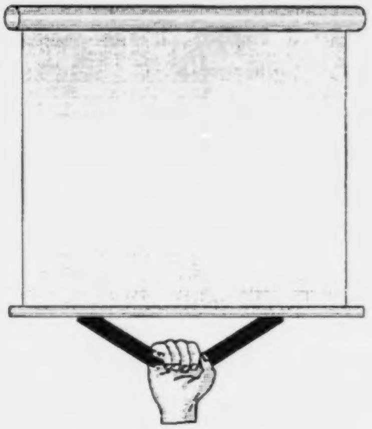
Cafe curtains are short curtains in pairs or multiple tiers with various top treatments. They are hung on rods with rings. Cafe curtains may be used on almost any type of window.

Venetian blinds originated in China and were brought to Europe through Venice, Italy. From that city, they got the name Venetian blinds. Although these blinds control light and ventilation, they often rattle in windows and are difficult to keep clean. The Venetian blinds have horizontal slats that are two inches wide. They can be made of wood, metal, or plastic strips. The newer versions of the Venetian blinds are miniblinds that have one-inch slats and microblinds that have 1/2-inch slats. Miniblinds and microblinds are available in hundreds of colors, textures, and surfaces.

Blinds are available in many styles, designs, sizes, and colors. They can be used as an under treatment with drapes or with another treatment as the top treatment. Blinds are available in more than 100 colors and can be multicolored, striped, or duotone. Duotone blinds have a different color on each side of the slat. The maximum width for most blinds is 142 inches and the minimum width is 12 inches. The maximum square footage is 100 feet.

Miniblinds also are available for corner and bay windows. Blinds can be ordered with cutouts for air conditioners, ducts, and other obstructions. Motorized tilt blinds are available where remote control and/or power tilting action is desired in hospitals or other areas where a window may be difficult to reach. This type of blind is normally installed between the two glass panes.

Roller shades are functional and may be made of cloth or plastic. Use of fabrics and trims can make a roller shade decorative as well as functional. Roller shades are good to be used on short, wide windows. But, they can be used on most standard windows. Most all types of shades can be used on standard windows. Odd-shaped windows may be more difficult to fit with shades.



Austrian shades are made of sheer or semisheer fabrics such as nylon, silk, and blends. The bottom edge of the shade is usually finished with fringe. A braided cord is attached to the lower edge of each row of tape, drawn up through rings to the top, and drawn across to one side allowing for the raising and lowering of the shade. The fabric falls in scalloped folds as the shades are raised or lowered.

Roman shades look similar to Austrian shades but are much simpler. A pull cord laced through punched holes or rings of pleating tape on the back of a cloth shade is pulled to raise or lower the shade. As the shade is raised, the fabric falls in a series of horizontal, accordion folds. The Roman shade is often made of fabric to match a chair, bedspread, or wallpaper.

Balloon shades are similar to Roman shades and Austrian shades, but the fabric creates a puffed effect when the shade is raised. Balloon shades may be used on most standard windows. Short windows, however, do not allow the space needed for the puffed effect of the shade.

Shutters are made of wood or metal horizontal slats. A panel of fabric may be attached inside the frame. Shutters are attached to the window casing and can be used with draperies, in place of draperies, or folded back to become a part of the room. Slats on shutters have various widths similar to those of blinds.

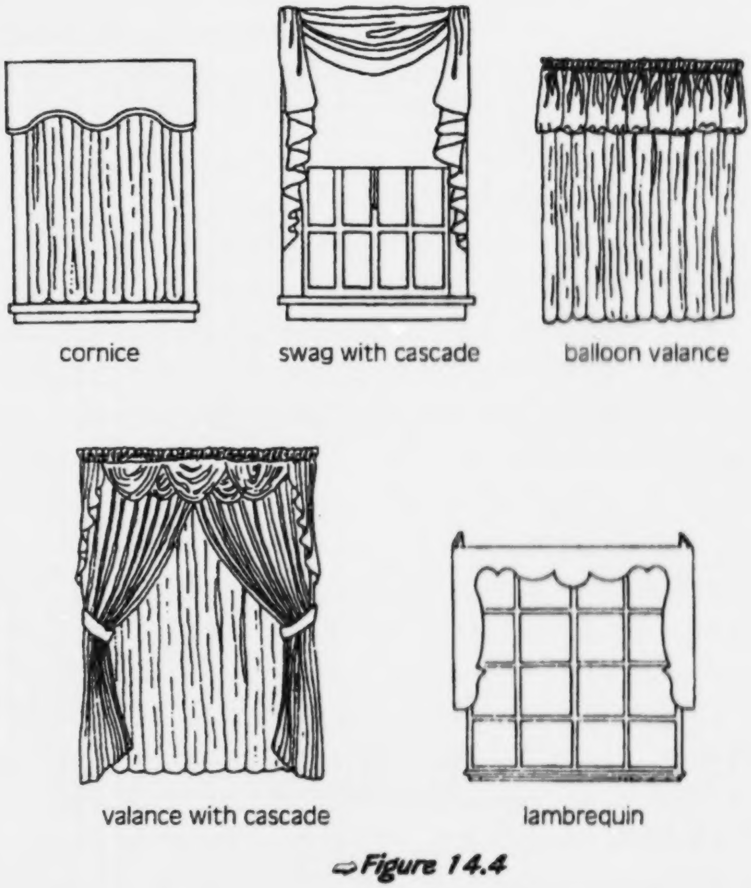
Shutters can be found for most any size window. The newer, wider slats are called ***plantation shutters***.

Types of Top Treatments

Top treatments are used to decorate the space above the window and to hide the hardware on which curtains and draperies are hung. They include valances, cornices, lambrequins, swags, and cascades. Top treatments can also include the drape or curtain over a blind or shade. Examples of top treatments are shown in Figure 14.4.

Definitions of a cornice, valance, and lambrequin vary with different drapery shops. Terms are often used interchangeably. A cornice is usually defined as a rigid horizontal heading of wood or metal, while a valance is usually a fabric heading. The definition of lambrequin falls somewhere between that of a cornice and a valance. It is a wooden piece covered with fabric that surrounds both sides and the top of a window.

A ***valance*** is always made of fabric and can be pleated, gathered, or shaped. The fabric of the valance may match the drapery fabric or contrast or coordinate with the fabric. The fabric of the valance should never be of a lighter weight than the draperies. Valances usually are hung on the outside rod of a double curtain rod.



Top Treatments

cornice

swag with cascade

balloon valance

valance with cascade

lambrequin

⇨*Figure 14.4*

A ***cornice*** is a horizontal straight or shaped window heading made of wood or metal. It may be painted, covered with fabric, or stained and varnished. It is a box like horizontal heading used across the top of the window over draperies, curtains, or shades.

A ***lambrequin*** is a fitted or shaped cornice board that extends from the top of the window down the sides of the window. Lambrequins can be shaped frames made of plywood, Masonite, or heavy buckram that are covered with fabric. Some wood frames are painted solid or have designs applied.

A ***swag*** is a valance made of fabric that is pleated or draped across the top of a window. A ***cascade*** is softly draped fabric hung at each side of a swag. The graceful curves of draped fabric create an elegant, formal window treatment. Swags and cascades can be used alone or with draperies to enhance any type of room.

◆ *Essential Questions:* ◆
Window Treatments

1. What factors influence the choice of window treatments?
2. What are the three purposes of window treatments?
3. What factors are important to remember when selecting the fabric for window treatments?
4. What are the purposes of top treatments?

ACCESSORIES FOR WINDOW TREATMENTS

Window treatments provide unlimited possibilities. Numerous window accessories help make these treatments possible. These accessories are known as ***drapery hardware***. Figures 14.5 - 14.8 illustrate and describe the various types of drapery hardware available today. The style of draperies, type of window, and the method of mounting determine the type of drapery hardware to be used.

Interior designers and their assistants must be knowledgeable of the function of each window treatment in order to select the most appropriate hardware. These professionals must also be familiar with the wide variety of hardware available and the installation procedures involved. Drapery hardware can add character, decoration, and dimension to the function of the window treatment and its overall contribution to the interior design scheme.

◆ *Essential Questions:* ◆
Accessories for Window Treatments

1. What factors determine the type of drapery hardware to use?
2. What is a traverse rod?
3. What is the difference between a traverse rod and a curtain rod?
4. What is a continental rod?

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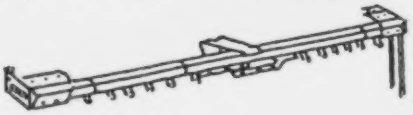
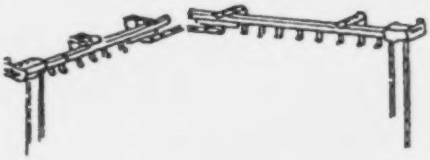
Windows Accessories — Rods

Adjustable Two-way Traverse Rod



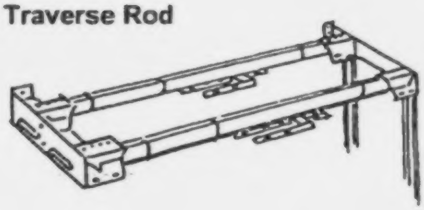
Used for draperies or pleated curtains that open from the center.

One-way Traverse Rod



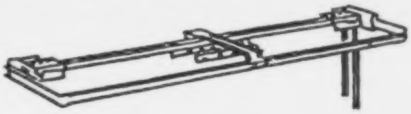
May be used alone or in pairs for windows that meet in a corner (one left-hand draw, one right-hand draw).

Double Traverse Rod



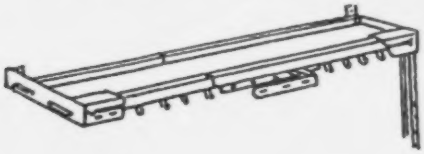
Used for pairs of draperies such as sheer or medium weight draperies (underdraperies) with draperies on the outside (overdraperies). Draperies can be drawn to the center or all to one side.

Combination Traverse and Valance Rod



Used for draperies and valances.

Combination Curtain and Traverse Rod

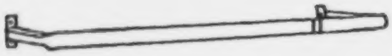


Used for shirred curtains and pleated draperies.

Figure 14.5

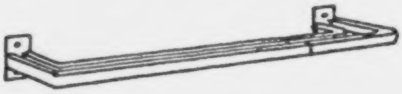
Windows Accessories — Rods

Single Curtain Rod



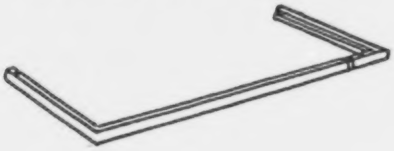
Used for curtains and stationary draperies.

Double Extension Curtain Rod



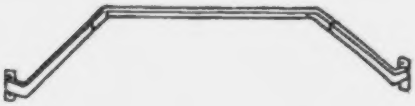
Used for curtains and valances or crisscross curtains.

Extension Canopy Curtain Rod



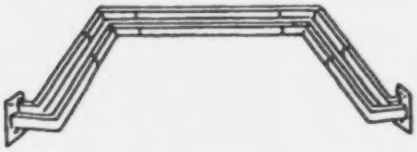
Used for stationary curtains, canopies, or valances. The rod is placed inside the bottom hem of the curtain, canopy, or valance to hold the curtain tight.

Single Bay Window Curtain Rod



Used for bay window curtains.

Double Bay Window Curtain Rod

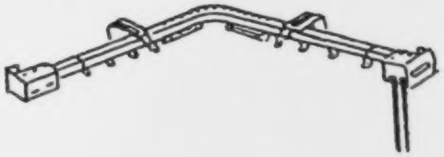


Used for curtains and valances on bay windows.

⇨ *Figure 14.5, cont'd.*

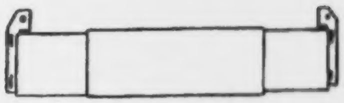
Windows Accessories — Rods

Corner Window Curved Rod Set



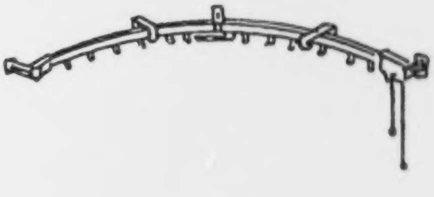
Used for two windows which meet in a corner with no wall space between them.

Continental Rod



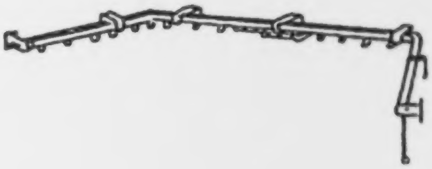
These rods measure 2 1/2 or 4 1/2 inches from top to bottom. This rod creates a unique heading. It can be used as a valance or unusual heading on a drapery.

Bow Window Rod

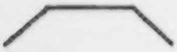


Used for bow window.

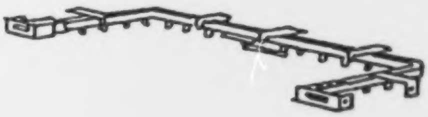
Bay Window Rod



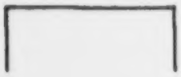
Used for bay window.



Rectangular Bay Window Rod



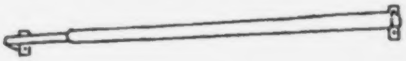
Used for rectangular bay window.



⇨ ***Figure 14.5, cont'd.***

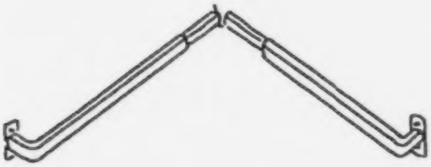
Windows Accessories — Rods

Sash and Door Curtain Rod



Used for shirred curtains on doors or windows. Rod is placed in top and bottom of curtains.

Corner Window Curtain Rod



Used for stationary curtains or draperies for corner windows.

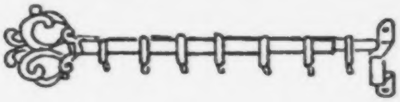
Curved Curtain Rod

Used for extending curtains into the room for a bowed effect.

Spring Pressure Curtain Rod

Used for shirred or cafe curtains. Rod is placed inside casings of curtains.

Swinging Crane Curtain Rod



Used for curtains on French doors or casement windows that swing inside.

⇨ ***Figure 14.5, cont'd.***

Windows Accessories — Rods

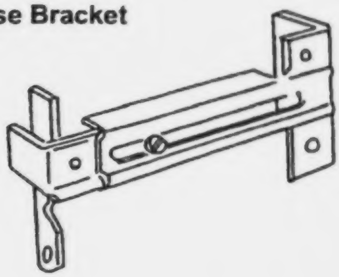
Rods with Finials

A ***finial*** is an ornament used to decorate the ends of drapery or curtain rods.

⇨ *Figure 14.5, cont'd.*

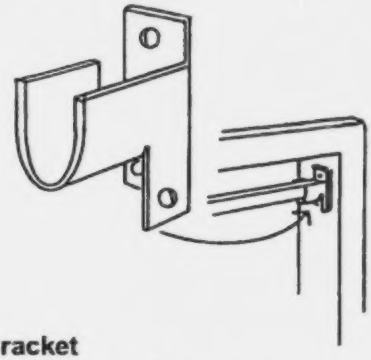
Windows Accessories — Brackets

Traverse Bracket



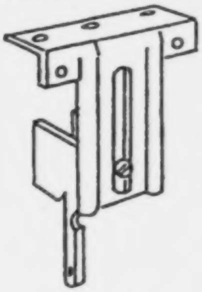
Used for draperies or pleated curtains that open from the center.

Inside Bracket



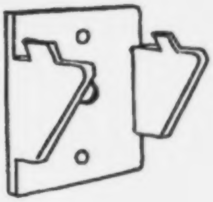
Mounted inside window casing or door frame to hold curtains.

Ceiling Bracket



Mounted on the ceiling to hold traverse rods.

Double Bracket

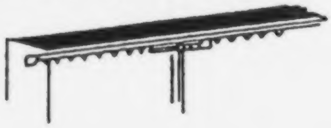


Used with layered window treatments to hold flat curtain rods or traverse rods.

⇨ *Figure 14.6*

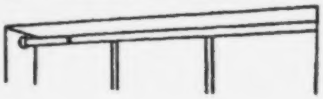
Windows Accessories — Mountings

Inside Casing Mounting



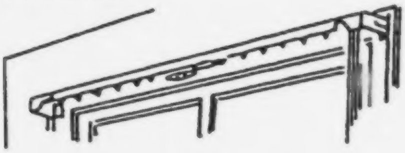
Used for any treatment in which the fabrics are hung close to the glass. When traverse rods are used, special inside casing brackets should be used.

Spring Tension Mounting



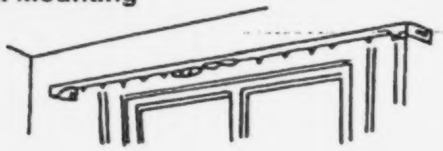
When spring tension rods are used, brackets are not necessary.

Casing Mounting



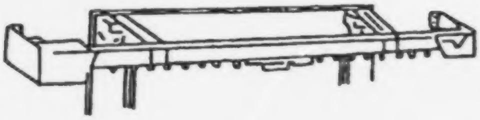
Also called frame mounting, this is the most conventional type of mounting.

Wall Mounting



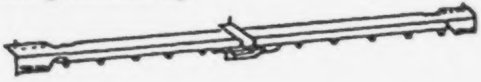
This rod is extended beyond the casing and mounted on the wall to make the window appear wider.

Extended Mounting



The brackets are mounted on the casing, but the rod has extensions on each end to make the window look wider. The end brackets do not touch the wall; they hold the drapery wall returns.

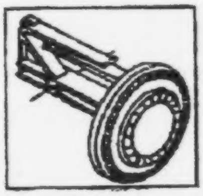
Ceiling Mounting



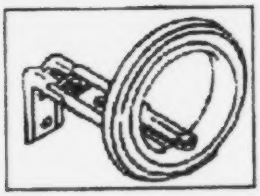
The rod is mounted onto the ceiling by screws inserted through the tops of brackets and supports. Ceiling track sets may be used. These mount directly to the ceiling and no brackets are needed.

⇨ *Figure 14.7*

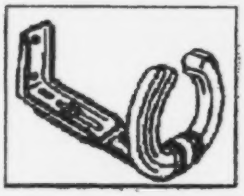
Other Types of Window Accessories



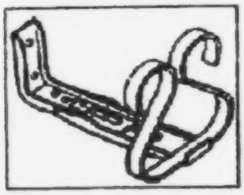
Clip Swagholder



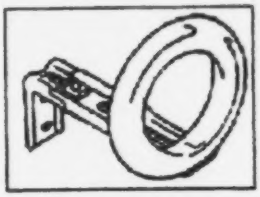
Wood Circle Swagholder



Horseshoe Swagholder

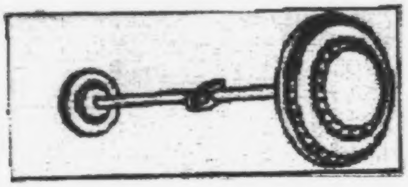


Tulip Swagholder

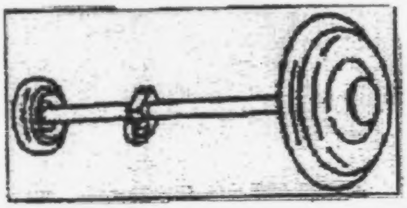


Brass Circle Swagholder

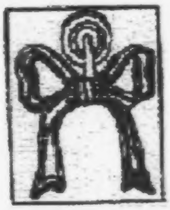
Scarfholders and Holdbacks



Scarfholder/Holdback



Knob Scarfholder/
Holdback



Ribbon Scarfholder/
Holdback

⇨ Figure 14.8

Chapter Highlights

- Windows serve a number of purposes. They control light, provide ventilation, reduce heat loss, and keep out the weather. Windows frame a view and serve as a decorative feature for both the inside and outside of a home or building.
- The most widely used window is the double-hung window. It consists of two sashes that can either be lowered or raised. This type of window has been used in the United States for about 250 years.
- The window is an important part of a building. Many window treatments are available for use on different types of windows. The size and type of window and the style of the architecture determine the kind of window treatment to be used.
- Different windows require different window treatments. Determining factors include architecture of the building, shape and placement of the window, size and use of the window, and the desired effect. Fabrics are a major consideration in achieving the desired effect.
- When considering treatments, a person should remember that the view from the outside must be considered along with the view from the inside. There are three purposes for window treatments. They control light and air and provide privacy. They also complement the overall design scheme of a room. Most of the time, one purpose will be more important to the client than the other.
- A proper window treatment can change the appearance of the window. A treatment also must be able to withstand various conditions. Moisture, strong sunlight, and the frequency of use are important considerations. The fabric chosen must accommodate these needs and wants along with completing the design scheme of the room.
- Yarn quality, thickness, colorfastness, and construction are important factors to consider before selecting a fabric. The type and amount of daily abuse to which the drapery will be subjected also should be considered. This includes exposure to sun light, humidity, soil, and handling.
- Blinds are available in many styles, designs, sizes, and colors. They can be used as an under treatment with drapes or with another treatment as the top treatment. Blinds are available in more than 100 colors and can be multicolored, striped, or duotone.
- Top treatments are used to decorate the space above the window and to hide the hardware on which curtains and draperies are hung. They include valances, cornices, lambrequins, swags, and cascades. Top treatments can also include the drape or curtain over a blind or shade.
- The style of draperies, type of window, and the method of mounting determine the type of drapery hardware to be used.

Chapter 15

Construction and Care of Window Treatments

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

1B Exhibit how the elements of design can create various effects.
2A Analyze characteristics of materials and workmanship in relationship to durability and use.
2B Identify characteristics of materials and workmanship in relationship to appearance, performance, use, and care of furnishings.
2E Demonstrate procedures for the care and maintenance of different types of furnishings and equipment.
3D Illustrate appropriate window treatments for specific windows.
5A Apply safety rules in performing various workplace procedures according to industry standards.
6B Demonstrate safe and skillful tool care and use.
7A Appraise characteristics of good workmanship in furnishings products.
7B Utilize knowledge of design application, selection, and construction to complete furnishings projects.
7C Analyzes uses of technology in furnishings, design, and construction.

Chapter Vocabulary

box pleat
cardboard gauges
cartridge pleat
crinoline
dusting wands
finger pressing
French pleats or pinch pleats
miter
pinning-off
pleats
tabling

Construction of custom window treatments is a major part of the interior furnishings for both new and remodeled homes. In addition, many homeowners choose to completely redecorate the rooms in their homes by adding new window treatments, floor coverings, and other furnishings even though new construction and remodeling is not involved.

SAFETY

Many different types of tools and equipment are used in the construction and care of window treatments. Employees working in drapery workrooms or shops that specialize in the construction of window treatments must exercise care and caution when using tools and equipment. They must also strictly follow safety procedures and policies to ensure their safety as well as the safety of others.

Many times employees ignore preventive measure and safety procedures, thus resulting in accidents. Most workplace accidents are caused by carelessness and are avoidable. Irresponsible behavior leads to many accidents.

Irresponsible behavior includes attempting tasks without having proper training, removing safety devices from equipment, operating machinery at unsafe speeds, using defective equipment, using equipment improperly, and failing to use safety devices. Employees can prevent accidents by following proper procedures and acting maturely when using tools, equipment, and supplies. Chapter 17 contains additional information on workplace safety.

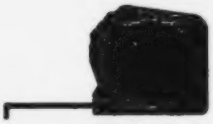
DRAPERIES

Most drapery shops send a skilled employee to the house of each client to measure the windows for treatments. This employee should have experience in drapery construction and understand the math necessary to determine amounts of fabric needed.

Specialized tools and equipment make drapery construction easier. Equipment needed includes padded, canvas-covered tables; metal hem gauges; push pins; steel measuring tapes; pins; tailor's shears; steam irons; needles; thread; glue; scissors; T-pins; weights; thimble; and ruler. A pocket apron is a convenient way to keep small equipment handy.

An interior design assistant or sales assistant may be asked to accompany the measurer to the client's home. For measurements to be taken and recorded correctly, it is important to know the procedures for measuring window treatments and for estimating the amount and cost of materials. Each shop may measure differently. Employees should follow the procedures of the place of employment. Regardless of the measurement procedures used, accuracy is essential in each step.

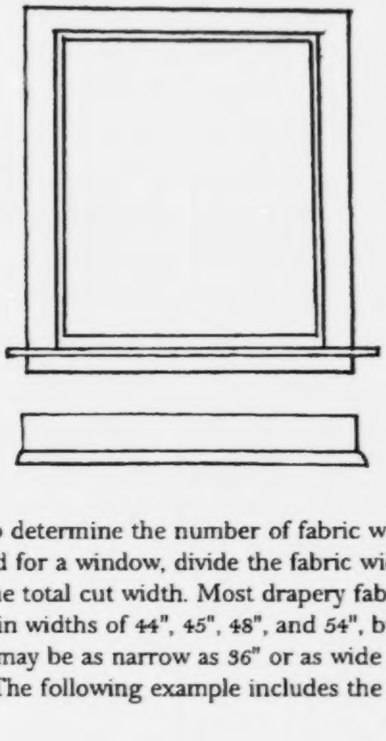
Measurements for any window treatment should be taken with a steel tape or folding ruler. The steel tape is preferred. The length should be measured from about 1/2 inch above the top of the rod to the sill, apron, or within 1 inch of the floor, depending upon the finished length desired. Allowances for the hem and heading should be added to determine the cut length.



The width should be measured from one outer edge of the fixture bracket to the other. If the bracket is not mounted, the width should be measured from the outer edge of the window frame. This is the flat measurement. Allowance for the wall return (space from the end curve of a rod to the wall) would have to be added. Generally, the amount of fullness allowed is determined by multiplying the width of the area to be covered by two or three, depending upon the weight of the fabric. The return allowance, hem allowances, and overlaps should be added and the fullness determined to get the cut width.

Drapery Construction

The hardware, the differences in weights of fabric, and the differences in procedures in individual workrooms cause the figuring of yardage to vary. The following are procedures for measuring and figuring yardage lengths and widths for draperies for the window illustrated.



To determine the number of fabric widths needed for a window, divide the fabric width into the total cut width. Most drapery fabrics come in widths of 44", 45", 48", and 54", but some may be as narrow as 36" or as wide as 108". The following example includes the total cut width of 215" from Table 15.1 and a fabric 54" wide.

Example: 215"÷ 54" = 3.98
4 widths are needed

To determine the number of yards of fabric needed, multiply the number of fabric widths by the total cut length measurement and divide by 36" (one yard). The following example includes the total cut length of 90" from Table 15.2.

Example: 90" x 4 = 360"
360" ÷ 36" = 10 yards needed

Many estimators add up to 1 yard extra to allow for flaws in the fabric. The procedure for measuring and figuring drapery yardage must be varied slightly for patterned fabrics that must be matched. Extra fabric must be allowed for pattern repeats. To figure the amount of extra fabric needed, follow the procedure in Chapter 16.

An employee may perform only one step in the drapery construction process at his or her place of employment. The job may consist of cutting the fabric, stitching the panels, or hemming the draperies. It is very important that a person be familiar with all the steps in the construction process. A person must realize the effect that each step has on the finished drapery. The selection of appropriate thread and needle size influences the ease of construction and the final appearance of draperies and curtains. The final appearance is also greatly influenced by the procedures and techniques used in stitching the panels. Only when correct techniques are used in every phase of construction will the finished draperies hang well and look attractive.

Choosing Thread. The first step in constructing any type of drapery is selecting the appropriate thread. Thread selection is based upon the weight and color of the fabric. Drapery fabrics usually can be classified into four categories: sheer, lightweight, medium,

Measuring and Figuring Drapery Yardage

Finding the Total Cut Length

Procedure	Measurement
Measure the desired length of the finished drapery usually from 1/2 above the rod to the sill, apron, or 1" from the floor.	84"
Add heading allowance. These are usually 1/2" to 1" for lined draperies, 4" for unlined draperies, and 3/4" for curtain casings.	+ 1"
Add hem allowances. This varies with the weight of fabric, length of drapery, and methods used in different workrooms. This is usually 2" to 5" single or double. (Example is a 2 1/2" or double hem.)	+ 5"
	Total Cut Length = 90"

Finding the Total Cut Width

Procedure	Measurement
Measure the rod and multiply by 2 to 3 for the desired fullness. Multiply by 2 for heavy, bulky fabrics, by 2 1/2 for medium-weight fabrics, or by 3 for sheer fabrics. (Example window has a 66" rod multiplied by 3 for a sheer fabric.)	198"
Add the wall return. This can vary from 3" to 5" for each side of the window, but 4" on each side is standard.	+ 8"
Add the center overlap and underlap. This can vary according to the type of rod and workroom, but 1 1/2" to 2 1/2" is usually allowed for each side.	+ 5"
Add side hem allowances. This is usually 1" in width for each of the four side hems which can be single or double. (Example will have four 1" single hems.)	+ 4"
	Total Cut Length = 215"

Table 15.1

Choosing Needle and Stitch

Fabric Weight	Needle Size	Stitches Per Inch
Light	Fine #9 - #11	12 - 14
Medium	Medium #11 - #14	10 - 12
Heavy	Medium Coarse #14 - #18	8 - 10

Table 15.2

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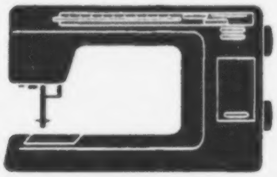
or heavy. Thread sizes range from fine to coarse. Fabrics, such as voile (lightweight, sheer fabric), gauze, and some casement cloths, are classified as sheer or lightweight fabrics. A fine thread should be used when sewing on these fabrics. Fabrics that are classified as medium weight, such as gingham, linen, antique satin, chintz, and brocade, require a medium thread. Heavy fabrics, such as velvet, velveteen, denim, and some casement cloths, require a more coarse thread.

Thread used in a drapery workroom may be a mercerized cotton, a blend, or a #10 nylon filament. Mercerized cotton and blend threads range from fine to coarse. A #10 nylon filament thread is available in one size. This thread is used because it is lightweight, durable, and transparent. Since it is transparent, it can be used to match stitching areas of draperies which otherwise would have to be hand stitched to keep the stitches from showing. After determining the size of thread to use, the thread color should be selected. Thread on a spool looks darker than a single strand. Pull a strand from the spool and hold it next to the fabric to select the appropriate color. When selecting thread for a printed fabric, choose a thread one shade darker than the dominant color.

Choosing Needle and Stitch. The second step in constructing draperies is to select the appropriate sewing machine needle and the number of stitches per inch. Table 15.2 shows the machine needle sizes and the number of stitches per inch most commonly used for drapery fabrics.

Before beginning to sew the cut drapery panels, a person should test the effect of the needle size and stitch size chosen by stitching on a sample piece of fabric. The line of stitching should be smooth, not puckered. There should be no visible holes left in the fabric. A puckered stitching line results when the machine tension is too tight or the stitch is too short. Sewing with a needle that is too large can cause holes along the line of stitching.



Matching Designs. If a printed fabric is used, the designs should be matched. If the design is to be continuous, pattern repeats must be matched and pinned before machine stitching begins. The steps in Figure 15.1 should be used to match pattern repeats of drapery lengths.

Stitching Drapery Panels. The time spent selecting the correct thread, needle, and stitch and the effort spent pinning accurately will be wasted unless proper techniques are used to stitch the drapery panels together. Accurate stitching is necessary to construct draperies that will look good and hang well. The following steps are basic to sewing draperies. However, details may vary from workroom to workroom. The following is a basic guide.

Steps for stitching panel lengths of patterned fabrics include the following:

1. After matching and pinning panel lengths, begin at the hemline and stitch along the fold line or the line where the pin points entered the fabric.
2. Remove pins as needed. Do not stitch over them. Check every few inches to make sure the patterns still match.
3. Hold the underneath fabric length firmly, since it tends to be pulled over the machine feed dog faster than the upper length.
4. Once the seam has been stitched, check again for accuracy in pattern matching. Cut off the extra fabric of one panel

Matching Designs

1. Match the patterned panel lengths by placing the shortest length on the table with the right side up. This length is the length that was cut first and represents the required length for the panel.
2. Place the right side of the next panel length on top of the panel length on the table.
3. Fold the edge of the top panel length back along the seam line. Using the folded edge as a guide, move the folded edge up and down on one motif on the bottom panel until the designs of both panel lengths are matched lengthwise.
4. Again, using the folded edge as a guide, move the edge back and forth on one motif on the bottom panel length until the patterns are matched crosswise. This step matches pattern width.
5. The next step is to pin the two lengths together. Before pinning, make sure the top panel length covers or meets the top and bottom edges of the panel length on the work table.
6. Pin the two lengths together by folding the seam allowance back into position. Pin toward yourself by placing the point of the pin through both layers of fabric, starting the pin point at the fold line.
7. Raise the edge of the top layer of fabric to be sure the patterns match at the point where the pins were first placed in the fabric.
8. If patterns do not match, repeat steps 3 through 7.

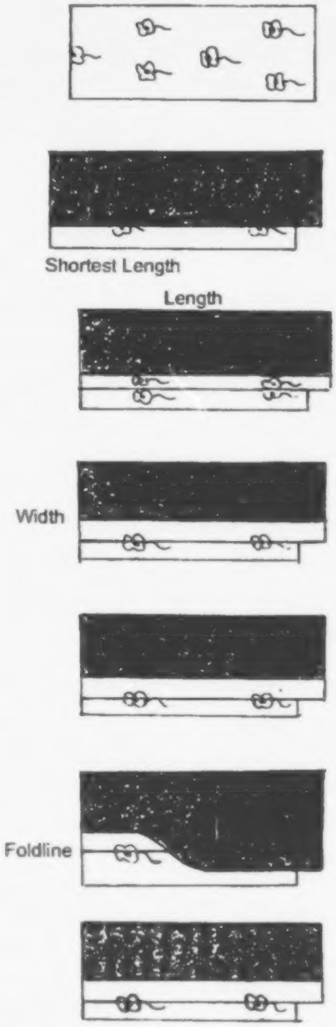


Figure 15.1

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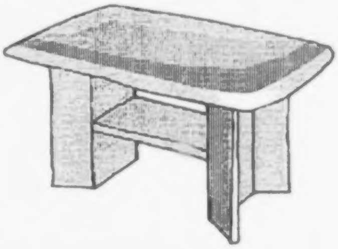
length. The seam allowance left should be 1/2" for lockstitch machines and 1/4" to 3/8" for sergers.

Steps for stitching panel lengths of solid fabrics include the following:

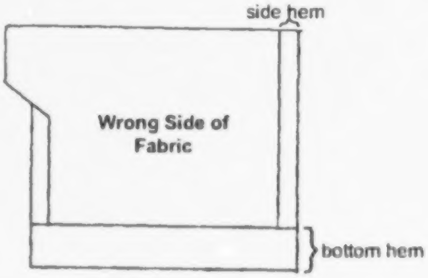
1. The hemline of each panel is usually notched in the cutting process to indicate where to begin sewing. With right sides together, match lengths at the hemline.
2. Holding fabric edges together, machine stitch 1/2" from the raw edges using a lockstitch machine or 1/4" to 3/8" from the edges using a serger.
3. Stitch from hemline to heading to avoid stretching the seam.
4. Hold the underneath fabric length firmly since it tends to be pulled over the machine feed dog faster than the upper length.

The tabling process is one of the most important steps in making draperies. ***Tabling*** is the handwork performed at large tables during the sewing process. Tabling includes measuring, marking, and folding hems and pleats; pressing draperies; attaching lining; and doing other handwork at large tables. Hems must be measured accurately to make sure that the draperies hang straight and smooth. If the drapery is lined, the grain line of the lining must be straight and the handwork must be neat and accurate. Accuracy in measuring, cutting, and marking contributes to draperies that look professional.



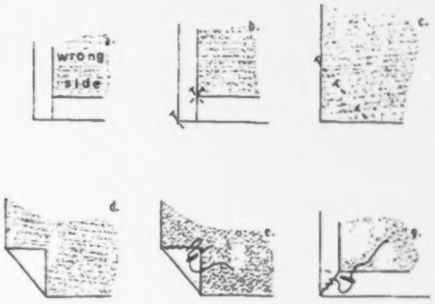
Hemming Draperies. The following are general steps for hemming draperies. Depending upon the procedures followed by a specific drapery workroom, these steps can occur at different stages in the construction of draperies. In one workroom, for example, a person may serge or stitch crinoline to a drapery panel before completing step 1. In another workroom or for another fabric, the crinoline may be attached after step 6. Hems can be sewn in place by hand at the table or taken to a machine and blind stitched. It is important to remember that procedures may vary from one business to another.

1. Set the hem gauge for the desired hem width. Hem width can vary depending upon the weight of the fabric and the size of the window. Side hems are usually 1" to 1 1/4" wide. Bottom hems are usually 3" to 4" wide, but can be a 5" double hem. The raw edge should be turned under 1 4" to 1/2" on single hems. The depth of drapery hems can vary with the type of fabric, techniques of the employer, or the request of the client.

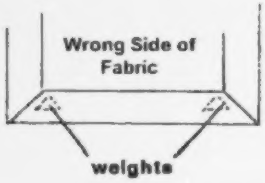


2. Fold over the fabric the desired width to form hems.
3. Miter corners if a single lower hem is used. To ***miter*** (fit together at an angle) corners, use the following instructions:
   a. Fold the side and bottom hems into place. Use a gauge for accuracy.
   b. Mark with pins the places where the inside edges of the side and bottom hems meet and the point of the lower corner.
   c. Unfold the hems.
   d. Fold the fabric along the line formed by the pins.
   e. Hand tack in place, if necessary.
   f. Refold the side and lower hems. Leave the extra material folded inside the hems.

   g. Slip stitch hems together along the diagonal fold.



4. Crease the fold with fingers. This is called ***finger pressing***. Finger pressing ensures accuracy and neatness and saves time and energy.
5. Press the crease lightly with an iron.
6. Place pins every few inches at right angles of the hem. Pin points should be turned toward the center of the panel to prevent pricking fingers or fabric and to prevent puckering.
7. Tack weights inside hems to help them hang smoothly. Weights used in drapery shops may be individual weights, by-the yard chains, pin-on weights, and/or sew on weights. Use the following procedures to install weights:
   a. Cover metal weights with fabric unless they are already covered when purchased.
   b. Sew or pin two weights to the wrong side of each drapery.
   c. Place one weight 2" in from each side of the panel and 6" from the bottom if the hem is double.
   d. Weights should be located inside the lower corners when the panel is completed.
   e. If by-the-yard chains are used, place them in the bottom of the lower hem and tack to the panel at each side hem.



8. Slip stitch or machine stitch the hems in place after the crinoline is inserted in the heading.
9. If using a double hem, blind stitch the corner edges together.

Attaching Crinoline to Drapery and Curtain Headings. Crinoline is used most often to construct drapery headings in drapery workrooms. ***Crinoline*** is used to stiffen the drapery heading, add body, make the pleats look more tailored and hold more firmly, and give a solid foundation for the hooks.

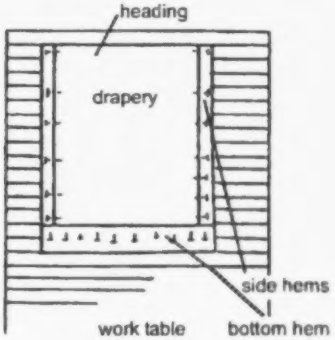
Use the following procedures to measure the amount of crinoline for the drapery heading.

1. Select the size of crinoline which is the same width as the depth of the heading.
2. Measure across the width of the heading with a tape measure or use the roll of crinoline.
3. Cut the crinoline the desired length. Crinoline can be cut to the exact width of the panel after the side hems are pressed under, or it can be cut the entire width of the panel including the allowance for side hems. This method allows a double thickness of crinoline at each edge of the panel heading to provide extra strength.

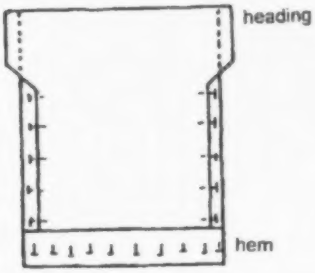
Procedures for attaching crinoline to draperies vary with different workrooms. Crinoline can be placed in the heading by hand after hems are pinned in place. It also can be attached to the drapery fabric by machine before or after the side and bottom hems are pinned in place. Each of these procedures is described in the following sections.

As always, follow the procedures preferred at the workroom. The following is one set of instructions for attaching crinoline by hand.

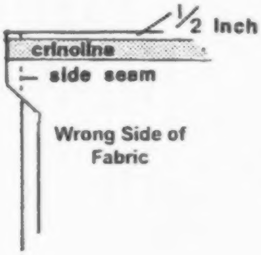
1. Place the heading edge along measured lines on the work table with the wrong side of the fabric up.



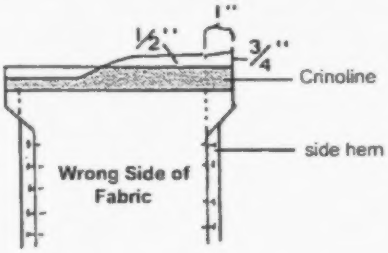
2. Remove pins and unfold side hems at the panel edge.



3. Place the top edge of the crinoline 1/2" from the raw edge of the panel heading. Use a hem gauge set for 1/2" to ensure accuracy.



4. Insert end of crinoline, matching the cut edge or the fold in the crinoline with the fold line of the side hem, depending on the method used.
5. Regardless of the method used to attach crinoline to the panels, adjust the crinoline so that one heading corner of one panel of a pair of panels is 1/4" lower than the rest of the panel heading. The panel heading corner with the 1/4" adjustment will be attached to the center under carrier of the traverse rod. This carrier is behind the over carrier and approximately 1/4" lower. By lowering the corner of the panel heading that will be attached to the under carrier 1/4", the hemlines of both panels will match.
6. Make this 1/4" adjustment by moving the crinoline down 3/4" from the top of the heading edge at the fold line of one corner. This tapering off process should be made within 1" of the panel edge.



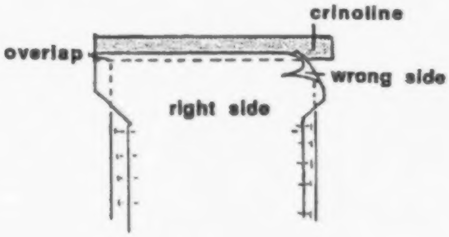
7. When the crinoline is in place, mark the adjusted corner with a pin on the wrong side of the panel. The pin marking the panel for the carrier should remain in the panel until the draperies or curtains are installed.
8. Working with a small length at a time, fold the top edge of the drapery panel down over the crinoline, and finger press along the top edge of the crinoline. Continue this process until the entire width of the panel heading is completed. Press the fold line with an iron.
9. Attach the folded edge to the crinoline to hold fabric and crinoline in place while the drapery heading is pleated. This can

be done with glue, hand tacks, or machine stitching.

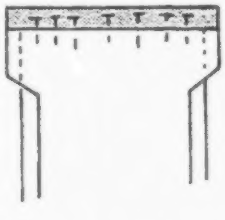
The most common method of attaching crinoline today is the machine stitching method. The crinoline can be sewed to the panel heading immediately after the panel lengths are sewed together or after the side and bottom hems are pinned in place. In other words, the crinoline can be sewed to the drapery fabric before or after the side and bottom hems are pinned in place.

When crinoline is attached by machine after the side hems have been pinned, the following procedures should be used:

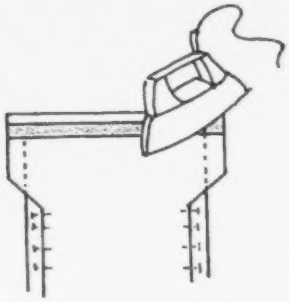
1. Remove pins and unfold the side hems.
2. Place the wrong side of the drapery or curtain fabric on top of the crinoline, allowing a 1/2" to 1" overlap.



3. Pin the fabric to the crinoline. Place pin points toward the bottom hemline of the panel at right angles to fabric and crinoline edges.



4. Machine stitch 1/4" to 1/2" from the raw edge of the drapery or curtain fabric all the way across the panel heading. Use a hem gauge for accuracy.
5. After the crinoline has been stitched to the headings, take the panels to the work tables. Fold the crinoline and top hem to the wrong side of the drapery or curtain fabric. Use the top edge of the crinoline as the guide for folding.
6. Press the fold line with an iron.



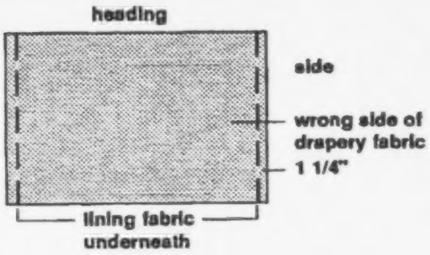
Constructing Lined Draperies. The construction of lined draperies involves the same techniques as unlined draperies, except a lining is added. Most draperies can be lined. The more formal draperies are almost always lined. Linings are placed in draperies for several reasons. The lining helps to protect the draperies from soil and from fading. It helps to add weight to create soft, graceful folds. Lastly, it creates a neat, uniform appearance on the outside of the home or building.

Draperies can be lined with a variety of fabrics. In selecting lining fabric, it is important to choose an appropriate weight for the drapery fabric. Lining fabric should require the same care as the draperies. Lining fabrics include cotton, sateen, satin, chintz, polished cotton, batiste, broadcloth, and percale. Metallic or thermal-insulated linings are available to offer the extra advantages of keeping the heat inside during winter and keeping the sun's heat outside during summer. Lining fabrics are often neutral colors, such as off-white, beige, or soft gray. However, linings can be selected in colors that match the draperies. Lining a drapery with a contrasting color is done less often, but it can be very effective.

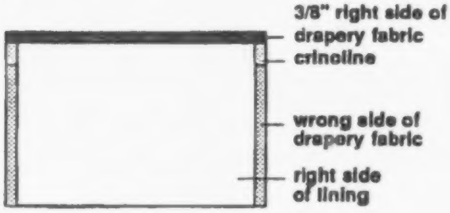
The lining can be attached to the drapery fabric using one of several methods. The procedures that follow are merely guidelines.

Remember that the lining fabric must be cut on the true grain of the fabric. Straighten the fabric before cutting the lining.

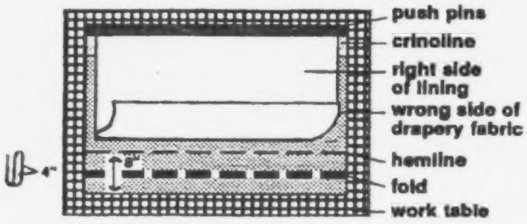
1. Trim selvages from drapery and lining fabrics.
2. Place right sides of lining fabric and drapery fabric together with the lining fabric on the bottom. Place edge of lining 1 1/4" from the side of the drapery fabric to be stitched.


heading
side
wrong side of drapery fabric
1 1/4"
lining fabric underneath

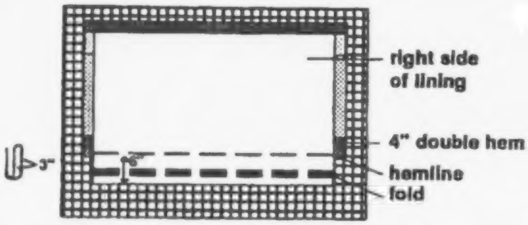
3. Lap crinoline 5/8" over the edge of the drapery fabric. Machine stitch 1/4" from the inside edge of the crinoline. Hold fabric and crinoline tight while stitching to keep fabric from puckering. Stitch about 6", stop, position fabric, hold tight, and begin stitching again. When near the edge of the drapery, cut the lining fabric 1 1/4" from the edge of the drapery, clipping down from the top about 2". Finish machine stitching. Cut crinoline even with drapery fabric edge.
4. Turn right sides to outside. Fold drapery fabric over the top edge of the crinoline. Allow about 3/8" of drapery fabric to show on back side of the drapery. Press heading.


3/8" right side of drapery fabric
crinoline
wrong side of drapery fabric
right side of lining

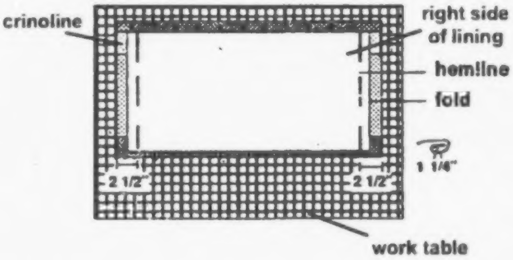
5. To make the bottom hem, pin drapery at top of work table on a measurement line. Press drapery and lining fabrics. Lay lining fabric back from bottom edge of drapery. Measure 8" from bottom edge of drapery fabric, and fold up for a 4" double hem. Press along fold to form hemline. Fold raw edge to inside even with pressed hemline. Press.


push pins
crinoline
right side of lining
wrong side of drapery fabric
hemline
fold
work table
4"
8"

6. Fold bottom edge of lining under until fold line formed is 1" above drapery hem fold line. Press fold line of lining fabric. Measure 6" from fold line to form a 3" double hem. Trim off excess fabric. Press along fold to form hemline. Fold raw edge of lining to inside, even with pressed hemline. Press.


right side of lining
4" double hem
hemline
fold
3"
6"

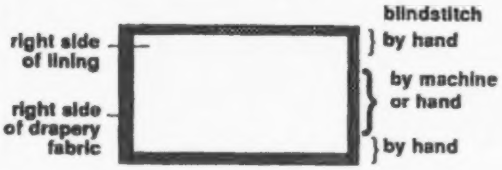
7. To make side hems, fold drapery fabric over 2 1/2" for a 1 1/4" double hem. Press along fold line to form hemline. Fold raw edge to inside even with pressed fold. Press.


crinoline
right side of lining
hemline
fold
1 1/4"
2 1/2"
2 1/2"
work table

8. If multiple widths are used to make a drapery panel – a weight should be sewn

to the vertical seam that is hidden in the hem. This would be in addition to weights in corners of panels.

9. To finish, open side hem and bottom hem. Place weight in corner and secure to the drapery.
10. Blind stitch drapery bottom hem from side to side. Begin blind stitching side hem just below the crinoline on one side hem. Blind stitch to just above the bottom hem. Blind stitch other side hem between bottom hem and crinoline.



11. By hand, blind stitch side hems at heading and bottom hem.

Pleated Draperies

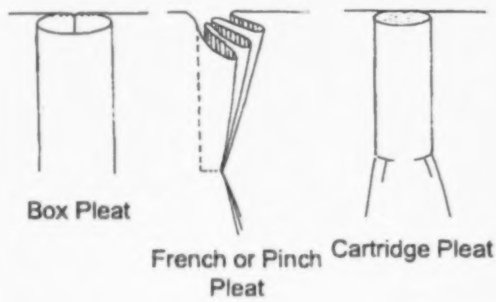
Kinds of Pleats. ***Pleats*** are a popular type of heading for draperies and curtains made from stitched folds of fabric with spaces between them. An interior design assistant or sales assistant working in drapery construction should be aware of the various types of pleats and the steps involved in constructing pleated draperies.

Three types of pleats are commonly used in drapery headings. They are all spaced and stitched in the same way. The three types of pleats are the box, French or pinch, and cartridge. The finishing procedure applied to a pleat determines the type of pleat formed.

With the ***box pleat***, the fabric is distributed evenly on each side of the machine stitching and pressed flat. The pleat is blind stitched across the top and can be tacked at the bottom of the crinoline.

French pleats or ***pinch pleats*** have a large fold that is divided or pinched into three small folds and tacked by hand at the top. This type of pleat has a bar tack at the bottom of the heading.

In a ***cartridge pleat*** each pleat is stuffed with cotton, a roll of cardboard, or interfacing. If this treatment is used, smaller pleats (2 1/2 inches) are more attractive.



Planning Pleats and Spaces for Draperies and Curtains. If draperies are to fit the window and hang well, pleats must be spaced correctly. The steps listed in Table 15.3 are procedures for spacing pleats. A sample measurement is given for help in understanding each step.

When planning the spacing of pleats, it is important to remember that an uneven number of pleats in a panel is more pleasing in appearance than an even number. Also, when fabric widths must be joined to form one panel, do not let the seam fall on the fold line of a pleat. Adjust the spacing if necessary to prevent this.

After the spacing of pleats has been determined, mark the spaces on the drapery panels. This process of measuring and marking the location of spaces and pleats with pins is called ***pinning-off***. Pinning-off is an important step in tabling draperies.

Some drapery workrooms have machines that automatically space drapery pleats. If a

Spacing Pleats

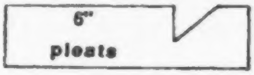
Procedure	Sample Measurement
1. Measure the width of one unpleated drapery or curtain panel.	156"
2. A window 108" wide should have two panels. One drapery or curtain panel should cover half the window. Divide 108" by 2.	54"
3. Add 1" for the ease on a large window and 1/2" for a smaller window.	+ 1"
4. Add half of the center overlap (3"). (1/2 of 3" = 1 1/2").	+ 1 1/2"
5. Add 3" to 5" inches for one return.	+ 3 1/2"
6. The width of the heading after pleating should be the total sum of steps 2, 3, 4, and 5. (54" + 1" + 1 1/2" = 3 1/2" = 60")	60"
7. The remaining width can be used to make pleats. Subtract step 6 form step 1 to get the remaining width.	156" - 60" 96"
8. About 5" or 6" should be allowed for each pleat. Divide the amount of fabric available for pleats (96") by the amount of fabric needed for one pleat (6") to find the total number of pleats for one panel.	96" ÷ 6" = 16 pleats
9. The number of spaces between the pleats is always one less than the number of pleats. If there are 16 pleats, there will be 15 spaces.	15 spaces
10. To find the amount of fabric left for spaces, subtract the amount for the wall return (3 1/2") and half of the center overlap (1 1/2") from the width of the heading after pleating (60")	60" - 3 1/2" - 1 1/2" 55"
11. To determine the width of each space, divide the amount of fabric available for spaces (55") by the number of spaces (15).	55" ÷ 15 spaces = 3 2/3" per space

⇨ ***Table 15.3***

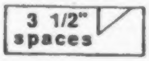
workroom has a pleating machine, an interior design assistant or sales assistant should learn how to operate it. Most draperies are spaced by hand, however. Two methods for pinning-off by hand are described. In the first process, ***cardboard gauges*** are used to measure pleats and spaces. In the second process, a measuring stick or the measurement markings on a work table are used.

Pinning-off Using Cardboard Gauges. The following describes the pinning-off process using cardboard gauges:

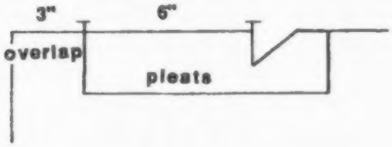
1. After figuring the amount of fabric needed for each pleat, construct a card board gauge of that length. This is usually 5" to 6". Write the word "pleats" on the gauge.

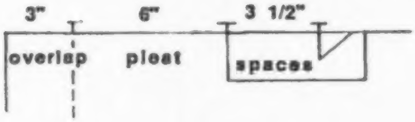


2. Construct a similar gauge using the width of the spaces between the pleats. This is usually 3" to 4". Write "spaces" on this gauge.

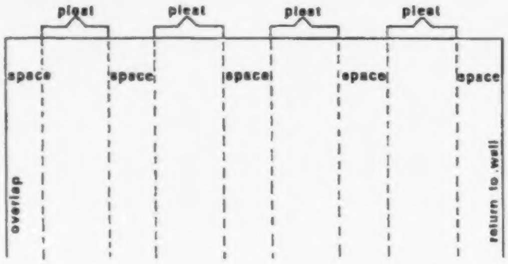


3. Begin spacing at the center edge of the drapery. Allow 3" for the overlap, then use the pleat gauge and pins to mark a place for the first pleat.





4. Use the space gauge and pins to measure and mark a space next to the pleat. Repeat this procedure until the correct number of pleats and spaces are marked.

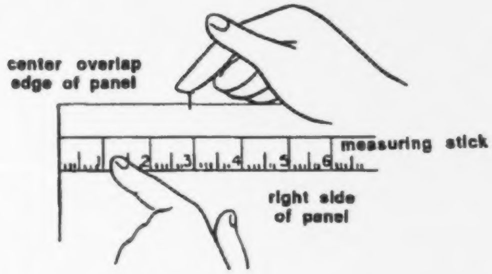


5. If joining two or more lengths of fabric to form one panel, try to avoid having the seam fall on the fold line of a pleat. Adjust the fold line by moving the line of stitching for one pleat slightly in front or in back of the line of stitching for the pleat previously folded.
6. Leave a return of about 3 1/2" at the other end of the panel, depending upon the rod used. If the measurements do not work out exactly, adjust the pleats by moving the pins slightly. Keep the spaces the same size.

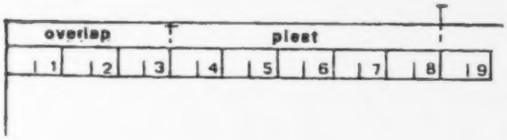
Pinning-off Using A Measuring Stick or Measuring Table. The following describes the pinning-off process using a measuring stick or a table with measurement markings:

1. Determine which will be the right and left panels. The left panel should have a pin in the right corner of the heading, indicating the corner of the heading to be attached to the center underlap carrier.
2. Working with one panel at a time and using a measuring stick, begin measuring at the side of the panel which will be at the center of the window. Measure the length of the space allowed for the center overlap or underlap. The width of this center overlap or underlap is usually 3".

3. At the top edge of the panel heading, place a pin vertically through the fabric and crinoline. This pin indicates the beginning of the first pleat.



4. Holding the measuring stick in place, measure over from the pin the width of a pleat. Mark this spot with another pin. In the example shown, the width of the pleat is 5".



5. Measure the width of a space from the second pin and insert another pin.
6. From the third pin, measure the width of another pleat and insert a pin. Repeat this process until you have the correct number of pleats and spaces. If necessary, move the measuring stick across the heading to make sure that pins are lined up with marks on the measuring stick. The wall return allowance should be left on the outer edge of the panel.
7. If the measurements do not work out exactly, make the necessary adjustments in the pleats. Be sure to keep the space measurements the same, the overlap or underlap allowance correct, and the wall return allowance correct.

Folding, Pinning, and Stitching Pleats. Pinning-off pleats is usually the last step in tabling draperies. After pleats have been marked, they are folded, pinned, and machine stitched. The following are suggestions for folding and pinning pleats properly.

1. Turn the fabric to the right side of the draperies. The edge of each pleat should be marked with a pin at the top of the heading as marked during the pinning-off process.
2. Bring together the two pins marking the edges of one pleat.
3. Keep the top edges of the pleat even.
4. Keep the width of the pleat even.
5. Place pins lengthwise down the heading to hold the pleat together.

The pinned pleats now can be stitched. Procedures for stitching pleats in draperies are listed as follows:

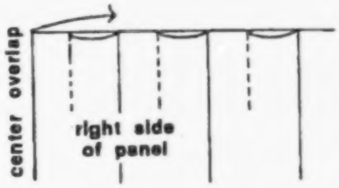
1. Use a strong needle.
2. Set stitch regulator at 6-10 stitches per inch.
3. Check to be sure top edges and folds are even.
4. Use hem gauge and measure pleat width to ensure accuracy.
5. Backstitch at top. Remove pins as needed.
6. Stitch to bottom of interfacing or crino line.
7. Backstitch or tie threads.
8. Stitch every other pleat, then return and stitch the in-between pleats to keep the lining from slipping.

Folding Pleated Draperies and Curtains. After construction is complete—except for finishing the pleats—the draperies should be folded and banded to allow time for pleats to set. Letting draperies lie flat with the pleats folded for a few days sets the pleats and results in prettier folds when the draperies are hung. Draperies must be folded exactly along the lines of the pleats if they are to hang well. Figure 15.2 lists an accepted procedure for folding draperies.

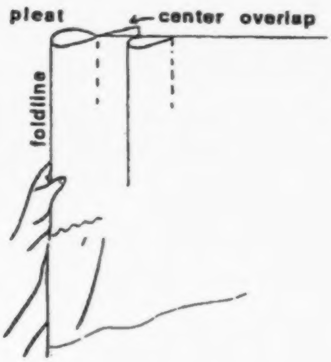
Folding Pleated Draperies and Curtains

1. Begin folding at the edge which will form the center of the curtain or drapery. This edge should already be marked with a pin.

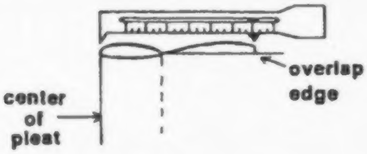
2. Fold the center overlap back with wrong sides together.


center overlap
right side of panel

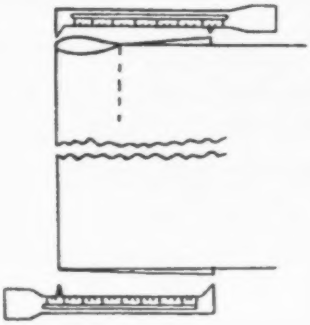
3. Smooth the center of the pleat the entire length of the panel with one hand. Run the other hand along the inside of the fold line to make sure the lining is in place.


pleat
center overlap
foldline

4. Using a hem gauge, measure the width of the fold at the top. Set the gauge.


center of pleat
overlap edge

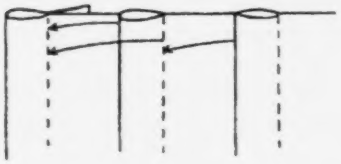
5. Using the set gauge, measure the fold at the bottom of the panel to make sure the fold is even in width with the top of the panel.



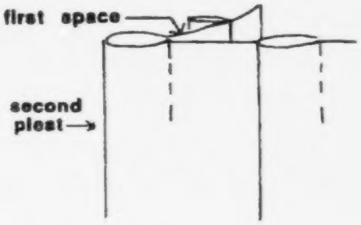
⇨ *Figure 15.2*

Folding Pleated Draperies and Curtains

6. To make the second fold, bring the stitching line of the second pleat to the stitching line of the first pleat.



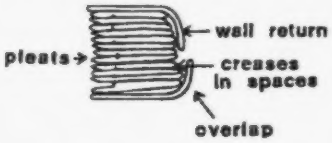
7. The creases formed when the second fold is made will be along the center of the second pleat and along the center of the first space allowance.



8. Smooth the folds in place, following the same procedure as in step 3.

9. Continue folding each pleat in the manner described until all pleats are folded, one on top of another.

10. After all the pleats have been folded, fold the wall return allowance back over the exposed fold of the drapery fabric. Fold the overlap upward to meet the return. This step protects the right side of the fabric. Only the lining fabric or the back of the drapery is exposed.



⇨ *Figure 15.2, cont'd.*

◆ Essential Questions: ◆ Draperies

1. How do professionals figure the number of yards of fabric needed for draperies?
2. What factors influence the selection of thread used for drapery construction?
3. Why is it important to use the appropri-ate size machine needle and number of stitches per inch in drapery construc-tion?
4. What is the tabling process?
5. What is the purpose of crinoline in drapery construction?

CONSTRUCTION OF OTHER WINDOW TREATMENTS

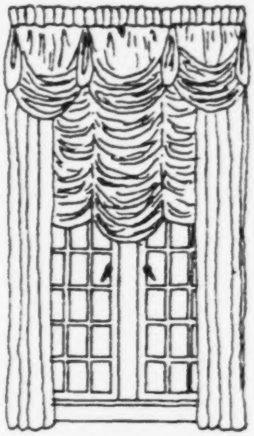
Window Shades

Shades are popular window treatments. An interior design assistant's or sales assistant's duties may include the construction of window shades. It is important to be aware of the various types of window shades and the procedures and materials used in their construction.

Some shades are translucent, which means they let in varying amounts of light. Other shades are opaque and shut out light almost completely when closed. These effects can be achieved by using different fabrics. The specific fabric is determined by the shade type and the decorative effect desired. When measuring fabric for window shades, remember the following:

- Use a wood or metal ruler for greater accuracy.
- Measure for the width of the shade at the point where brackets are mounted.
- For the length of the shade, measure from the brackets to the sill and add 12 inches to cover the roller.

Austrian Shades. An Austrian shade is a window covering with lengthwise rows of soft shirring, pulled up like a shade. Austrian shades are made of sheer or semisheer fabrics. They are shirred to form scallops, which can be from 10 to 15 inches apart. Sometimes a decorative fringe is stitched along the lower edge of the shade. This type of shade is usually used in rooms with formal decor, and it gives a rich, elegant effect.



The soft shirring is stylish in silken or sheer fabrics, and a unique effect can be achieved using an all-over print. Before shirring, the length of the fabric is two or three times longer than the finished length of the shades.

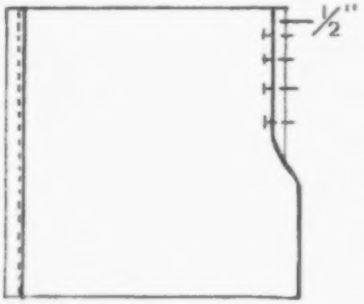
Equipment and materials needed include the following:

- fabric
- shirring tape for Austrian shades (This tape has chords for shirring the shade and rings for pull cords.)
- window board (board, such as a 2" x 4", that takes the place of a rod) with screw eyes (screws with circular rings at the tip)
- traverse cord

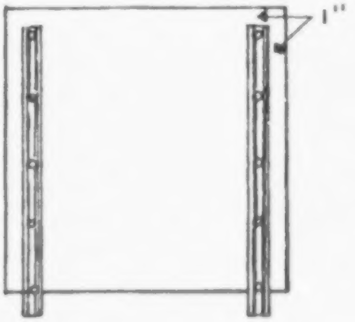
- thread
- sewing machine
- decorative fringe
- snap tape or nylon fastening tape
- metal rod

Instructions for constructing Austrian shades include the following:

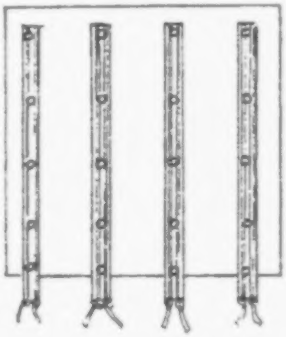
1. Measure the length and width desired for the finished shade.
2. Allow two to three times the length of the finished shade plus 1" for the bottom hem and 1/2" for the top hem. The more fabric used, the fuller the draping of the shade.
3. Determine how many scallops will be needed for the width of the window. Scallops of an Austrian shade can be from 10" to 15" apart. Most scallops are placed 12" apart. Extra width must be allowed for draping each scallop.
4. Allow 3" for a 1 1/2" hem at each side, plus 2" to 4" for each shirred section. The more shirring used, the deeper each scallop will be.
5. Cut the fabric according to the above measurement. Turn under 1/2" on both edges and press. Turn under another 1" on each side and press. Stitch the side hems by machine.



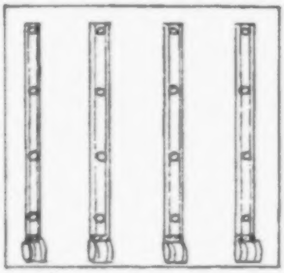
6. Cut the shirring tape 1" longer than the fabric for the shade. Cut one more length of tape than the number of scallops.
7. On the wrong side of the fabric, pin a strip of tape 1" in from the finished edge of each side and 1" below the top edge. Be sure the rings of each tape strip are directly in line with the rings of the strip on the other side edge.



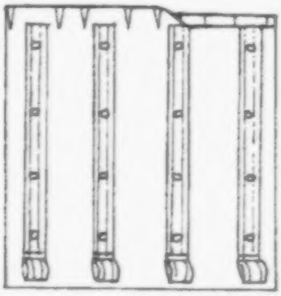
8. Stitch down each side of the tape to within 1" of the bottom of the shade.
9. Divide the width of the shade by the desired number of scallops to find where the rest of the shirring tape strips should be placed.
10. Mark the position for the scallops so they are evenly spaced across the shade.
11. Pin each tape in position 1" below the top of the shade. Stitch along each side of the tape to 1" from the bottom of the shade. Be sure the rings of each tape strip are directly in line with the rings of every other tape strip across the shade.



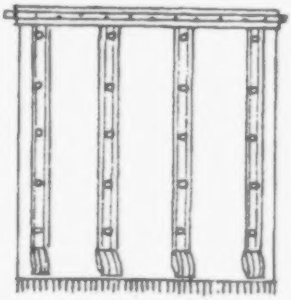
12. Loosely knot the ends of the shirring cords at each end of the strips of tape.
13. At the bottom of the shade, turn up the end of each tape strip 1/4" and press.
14. Turn up the bottom tape 3/4". Stitch the ends in place to form loops through which the bottom rod will be slipped.



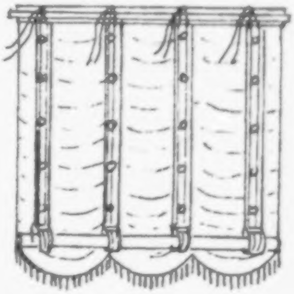
15. Finish the bottom edge of the shade by turning 1/4" of the fabric toward the right side of the shade. Press. Turn up another 1/2" to the right side and press.
16. Pin decorative fringe over the hem. Place the top of the fringe just above the top fold of the hem. Stitch the fringe and hem in place.
17. To finish the top edge, place 1" to 2" pleats at either side of each shirring tape strip, depending upon how much extra width was allowed for draping in step 4. After pleating, the shade should measure exactly the desired finished width.
18. At the top of the shade, turn a 1/2" hem to the wrong side of the fabric. Stitch the hem, stitching in the pleats at the same time.



19. Sew snap tape or nylon fastening tape on the wrong side of the shade directly over the top hem. The other side of the tape will be attached to the window board.

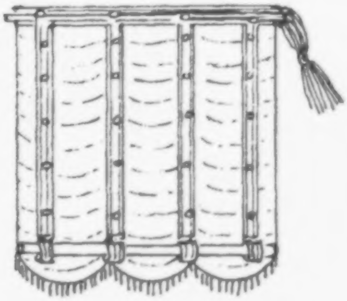


20. Cover a metal rod with a fabric casing. The rod should be 1" shorter than the width of the shade so it will not show.
21. Put the fabric-covered rod through the loops formed by the shirring tapes at the bottom of the shade.



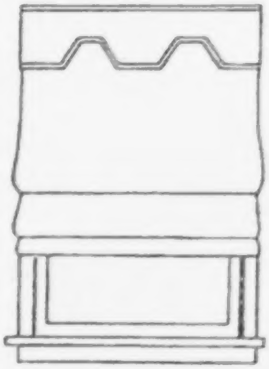
22. Pull up the two cords in each strip of shirring tape until the shade is the desired length.
23. Be sure that each tape is shirred to the same length and that the rings on each tape strip are in line with the rings of every other tape strip across the shade.
24. Knot the cords of each strip together at the top of the shade. Do not cut the cords so they can be released and the shade can be unshirred for cleaning.
25. Cut a length of traverse cord for each strip of shirring tape. The cord should be long enough to go up the shade, across the top, and back down the side of the shade.
26. Tie each cord to the covered rod at the bottom. Then, thread the cord through the rings of the shirring tape.

27. Fasten the shade to the window board. String the traverse cord through the screw eyes on the underside of the board.
28. Thread the cords through the screw eyes and gather them at one side of the shade.

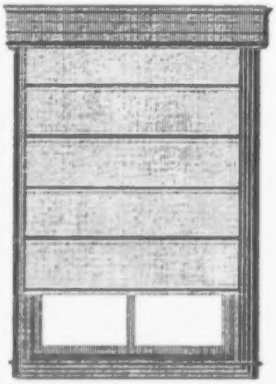


29. Lower the shade to its full length and knot the traverse cords together under the last screw eye.
30. Cut all the cords except one just under the knot. The remaining cord will be used to raise and lower the shade.
31. Attach a cleat to the window frame. The cord will be wrapped around the cleat to hold the shade in place when it is raised.

Roman Shades. The Roman shade resembles the Austrian shade but is much simpler to construct. When raised, the Roman shade forms neat horizontal (side-to-side) folds. It lies flat against the window when lowered. The Roman shade can be made to harmonize with almost any decor, depending upon the type of fabric and the trim used. Attractive by itself, this shade also combines well with a cornice or valance. Fabric for Roman shades can be selected to match other furnishings in a room, such as a chair or bedspread.



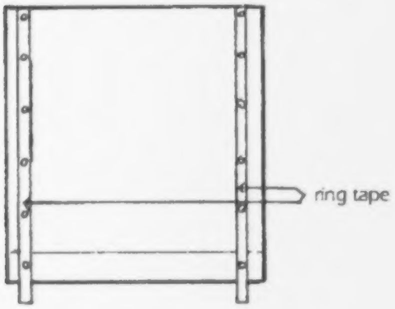
The Roman shade requires only enough fabric to cover the window, plus hem allowances. No extra fullness is required. Tapes with rings or holes are stitched to the back side of the shade and looped at the bottom to hold a rod. Cords placed through the rings or holes pull the shade up in folds.



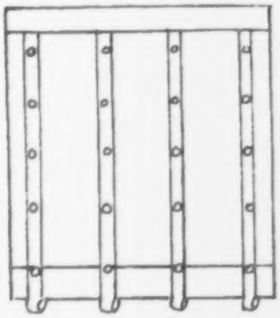
Equipment and materials needed include the following:
- fabric
- measuring stick
- pull tape (Two types are available. One has rings sewed to it, and the other has holes punched in it.)
- traverse cord
- window board with screw eyes
- sewing machine
- braid or trim, if desired
- thread
- cleat
- metal rod

Instructions for making the Roman shade include the following:
1. Measure the length and width of the window. Add 3 1/2" to the length for the top and bottom hems. Add 2" to the width for side hems. Cut the fabric to these measurements.
2. Turn up 3" on the bottom edge and hem.
3. Turn under a 1" hem on each side.
4. Cut ring tape 1 1/2" longer than the finished length of the shade.

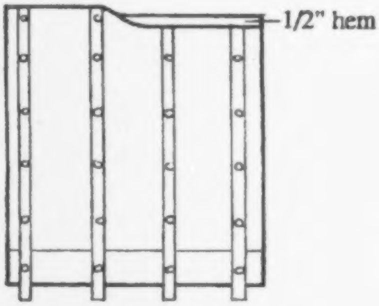
5. Pin the ring tape to the side hems on the wrong side of the shade, letting the extra 1 1/2" hang below the bottom hem.

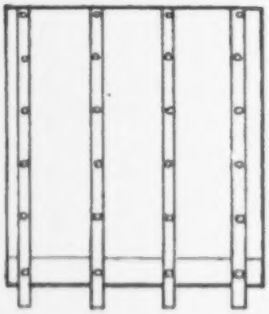


6. Stitch down each side of the tape as the sides are hemmed.
7. Additional strips of ring tape should be placed vertically 10" to 14" apart across the width of the shade. Stitch all the tape strips the same distance apart.

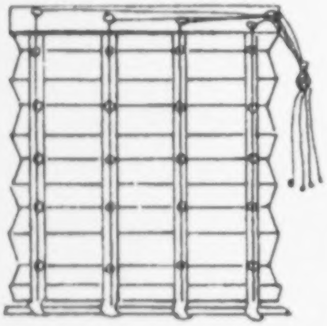


8. Pin the tapes so that the rings or punched holes of each tape are directly in line across the shade. This allows the shade to be pulled up evenly.
9. If braid or other trim is used to hide the tape stitching, sew it on now.
10. Turn under a 1/2" hem across the top of the shade. To this hem, sew the fabric used to attach the shade to the window board.
11. Turn up the ring tape extending below the bottom hem. Stitch down the tape to form loops. Slip a fabric-covered rod through these loops.





12. Cut a length of traverse cord for each strip of tape. Each cord should be long enough to go up the shade, across the top, and back down the side of the shade.
13. Tie each cord to the fabric-covered rod at the bottom.
14. Thread the cord up through the rings or holes.
15. Thread the cord through the screw eyes on the back of the window board. If necessary, tack the top edge of the shade to the board to hold it in place.
16. Gather the cords at one side of the shade by threading them through the screw eyes.



17. Lower the shade to full length and knot the cords under the last screw eye.
18. Cut off all the cords, but one, just under the knot. The remaining cord is used to raise and lower to shade.
19. Attach a cleat to the window frame. Wrap the cord around the cleat to hold the shade in place when it is raised.

Top Treatments

Top treatments, such as cornices, valances, lambrequins, swags, and cascades, offer a variety of ways to finish the headings of windows. These headings can greatly enhance window treatments. They also perform decorative functions such as the following:

- hiding rods and brackets
- connecting two or more windows to form a unit
- individualizing window treatments
- altering or hiding window proportions
- altering room proportions

A window heading can be pleated, shirred, ruffled, padded, straight, shaped, or circular. The shape and depth of the heading depend on the length and style of the drapery which the heading accessorizes.

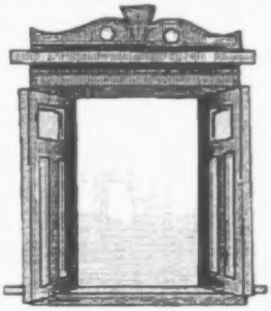
Rods can be used for window headings as well as boards. Continental rods with widths of 2 1/2" and 4" are popular as are the standard stationary rods. Two types of boards are used to mount window headings. Shelf-type boards are used for straight, shaped, or circular valances and for swags and cascades. Box type boards are used for straight or shaped lambrequins, padded lambrequins, and cornices. The wood used for boards should be smooth with no rough edges which could snag the fabric. Some drapery workrooms cover all woods used in cornices, valances, or lambrequins with a muslin or a similar type of fabric before attaching the decorative fabric. Others just place muslin across the top of the board when the item is finished.

Definitions of a cornice, valance, and lambrequin vary with different drapery shops, and the terms are often interchanged. A cornice is usually defined as a stiff horizontal heading of wood or metal, while a valance is usually a fabric heading. The definition of lambrequin falls somewhere between that of a cornice and a valance. A lambrequin is a cornice board covered with fabric that extends across the top and down the sides of the window.

Cornices. Cornices, painted or covered in fabric, contribute interest to a setting. The type of finish and trim chosen will be influenced by the style of the curtains, draperies, or shades and by the decorative scheme of the room. The height of the cornice from top to bottom is determined by the proportions of the window and the window treatment. Usually the tallest part of the cornice is from 1/9 to 1/6 the length of the draperies.

Equipment and materials needed include the following:

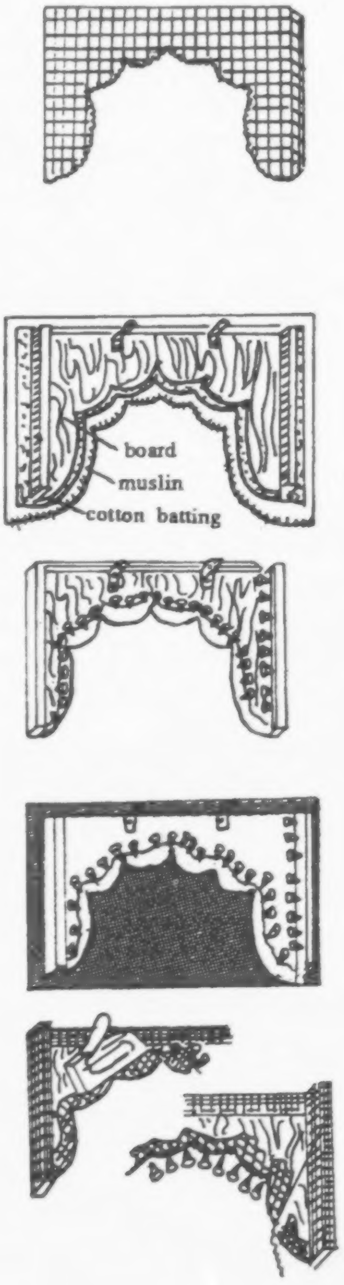
- metal tape measure
- heavy paper
- scissors
- pencil
- saw
- plywood (should be at least 1/2" thick)
- muslin
- padding (can be cotton batting, soft flannel, foam rubber, or polyurethane foam sheet)
- drapery fabric
- push pins
- staple gun or tacks and hammer
- decorative fringe or trim (optional)
- glue



Each workroom may have a different method of constructing cornices. One accepted method is given in Figure 15.3.

Constructing a Cornice

1. Measure the width of the window. The cornice board should extend at least 2" to 3" out from the front of the drapery rod and 2" to 3" beyond the drapery rod at the sides.
2. Use a paper pattern to determine the proper height of the cornice. Usually 1/6 to 1/9 of the total drapery length is a pleasing proportion for a cornice.
3. If the front piece of the cornice is to have a shaped lower edge, cut a paper pattern for the shape. Fold a long piece of paper in half and draw the design from the center fold outward.
4. Place the pattern on the wood and trace it in pencil. Cut along the penciled line with a saw to shape the cornice board.
5. Lay muslin on a large flat surface. Be sure the muslin is smooth.
6. Lay cotton batting smoothly on top of the muslin.
7. Place the board face down on the batting.
8. Trim muslin and batting to rough size. Clip muslin at corners.
9. Pull the muslin and batting to the back of the cornice board. Pull the fabric firmly and use push pins to hold the muslin and batting in place.
10. Adjust fullness around the board in tiny folds smoothed out over the covered edges.
11. Lay drapery fabric face down on a flat surface. Be sure the fabric design is correctly positioned.
12. Position padded board on the fabric.
13. Cut fabric to rough size.
14. Smooth out the fabric and pull it to the back of the board. Remove the push pins from the muslin and use them to hold the fabric, muslin, and batting in place.
15. Staple or tack the fabric to the back of the board 1/2" in from the edges. Remove the push pins.
16. Clip off any excess fabric extending beyond the staples or tacks.
17. Glue trim, if desired, along the outside edges of the board. Hold the trim in place with push pins until the glue dries.
18. Cut a lining of muslin or shade cloth and glue or staple it to the back of the board.

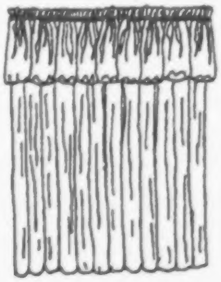


⇨ *Figure 15.3*

Valances. A valance is a short version of a drapery. It is hung from a rod or board across the top of a window to conceal the drapery hardware and to add a decorative effect. Some shops refer to a fabric-covered cornice as a padded valance. Valances should be used carefully in small rooms since they tend to make the ceiling appear lower.

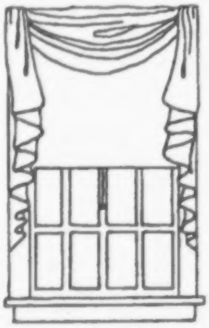
Valances can be made in any drapery or curtain style. They can be pleated, shirred, ruffled, or scalloped. A matching or contrasting fabric valance adds softness to the top of a window. Valances can be hung from a rod or mounted on a wooden support. To construct a valance to hang on a rod, follow the same procedures used to construct a drapery or curtain of the same style. The only difference is the length. The lengthiest part of a valance is usually 1/9 to 1/6 the length of the curtain or drapery with which it is used. Cut a paper pattern and use pins to fit it to the window to determine the length that is most pleasing in proportion to the total length.

Valance boards are usually of the shelf-type, since most shops define a valance as having only fabric, not wood, extended across the top of the window. The shelf-type board can be used to mount pleated or gathered valances. Straight or shaped valances are usually supported by a stiff underlining material such as buckram. Two rows of trim are usually applied to the lower edge of a shaped valance to keep it from curling under.



Swags and Cascades. A swag is a valance made of fabric, which is pleated or draped across the top of a window. A cascade (sometimes called jabot) is a softly draped fabric hung at each side of a swag. The graceful curves of draped fabric create an elegant, formal window treatment. Swags and cascades can be used alone or with draperies to highlight a traditional or period decorated room.

Methods of constructing swags and cascades vary greatly. Swags can be lined or unlined. Cascades must be lined, because the inside of the cascade shows. They are usually self-lined. Some drapery workrooms finish the upper edges of swags and cascades. Others simply staple the unfinished edges to the top of the board, perhaps covering the top with muslin.

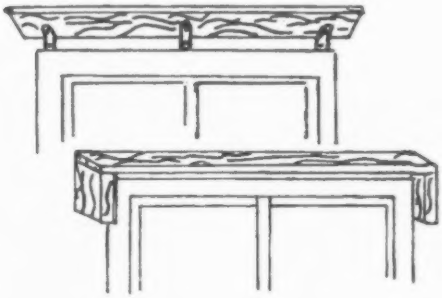


Equipment and materials needed include the following:

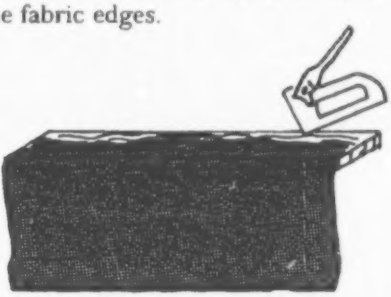
- wooden board
- muslin
- tape measure
- pins
- push pins
- scissors
- drapery fabric
- lining fabric
- thread
- staples and staple gun
- twill tape and bias strips (optional)

To prepare the board, do the following:

1. Use a wooden board that extends past the drapery rod on each side. It should be deeper (taller) than the rod. The board should be placed above the drapery or curtain rod. Shelf-type boards can be used.



2. To create a finished look, cover the board with muslin. First, staple the muslin (which is cut to width of the board) to the top of the board.
3. Wrap the muslin under the board and temporarily secure it out of the way. Do not finish covering the top at this time. After having stapled the swag and cascades to the board, bring the muslin forward to cover the top of the board and the fabric edges.



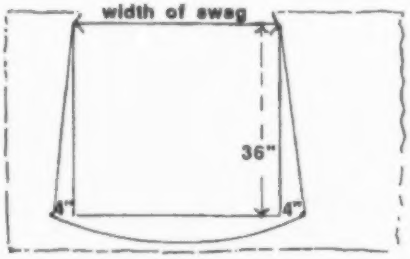
Instructions for making the side-pleated swag include the following:

1. For cutting out the swag and lining fabric, there may be a standard swag pattern or a person can measure and cut out a pattern. Swags that are cut on the bias drape better.

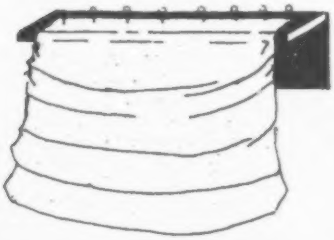
   If a pattern is used, enlarge or decrease the swag pattern to get the width and length specified.

   If there is no pattern, follow the procedures of the workroom to cut the fabric and the muslin. Often a muslin pattern is cut first and tested on the board before swag fabric is cut. One method of cutting a muslin pattern follows:

a. Measure the upper width desired for the swag.
b. Draw on muslin a rectangle which is 36" long and the same width as measured above.
c. Measure several inches out from each corner of the bottom edge of the rectangle. The additional width at the bottom will make fabric drape in fuller folds. The number of inches to measure on each side depends on the finished depth of the swag:
   - 4" for a 15" swag
   - 5" for a 16" swag
   - 6" for a 17" swag
   - 7" for an 18" swag



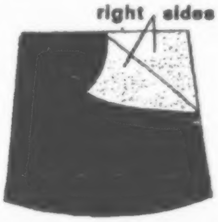
d. From these points on each side of the rectangle, draw a diagonal line to the top of the rectangle.
e. Round the bottom of the swag.
f. Cut out the muslin pattern.
g. Pin or tack the muslin pattern loosely to the top of the board.



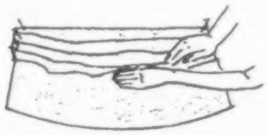
h. Practice pleating the muslin until the desired look is achieved.

- i. Notch the places where the pleats fall, and remove the muslin pattern from the board.
- j. Use the muslin pattern to cut out the drapery and lining fabric.

2. Place swag fabric and lining on a table with right sides together. Pin edges together along the bottom edge. Stitch.

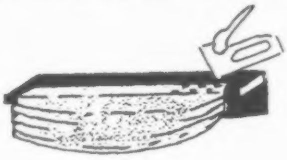


3. Trim seam to 1/4". Turn right sides out and press to make swag edge perfectly flat.
4. Hand or machine baste side and upper edges together to prevent fabric from shifting during pleating.
5. Pleat the swag. If a notched pattern is used, follow the notches. Otherwise, practice forming and pinning pleats until the desired look is achieved.



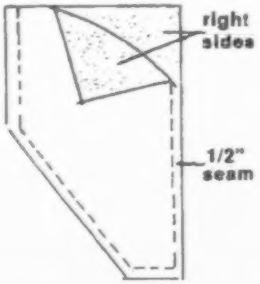
6. Stitch along the side seam lines from bottom to top of the swag to secure the position of pleats. If desired, turn a side hem to the inside and slip stitch, or enclose edges in bias strips to finish. The sides of the swag will not show because they will be covered by the cascade.

7. Secure upper edges of the swag and lining to the board with staples. The upper edges of the swag can first be finished and reinforced by stitching twill tape over the seam allowance. Or, the edges can be stapled in position.

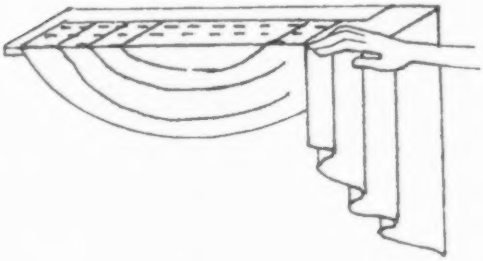


To make the cascade, use the following directions:

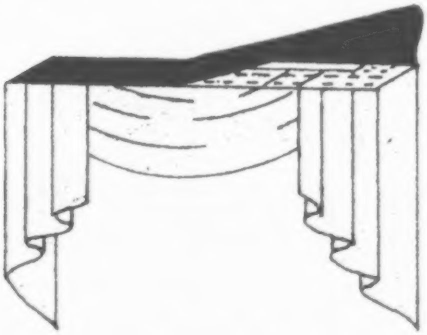
1. As with the swag, a standard pattern can be used for cutting out the cascade and lining or a pattern can be made from muslin. Measurements for the cascade vary depending upon the measurements of the swag and draperies with which it is used. The short side edge of the cascade should be longer than the swag at the point where they meet.
2. Cut out the cascade fabric and lining. If the cascade is self-lined, remember to reverse the pattern before cutting the lining.
3. Place right sides of the fabric together and stitch a 1/2" seam around the lower and side edges. Leave top edges open.



4. Trim seams and corners. Turn the cascade right side out and press.
5. Pin or tack the cascade loosely to the top of the board at the end of the swag. Practice pleating the cascade until the desired look is achieved. Adjust the width of the cascade to fit the board by taking larger or smaller pleats.



6. After positioning folds of cascade, staple in place.
7. Follow the same steps to construct the cascade at the other end of the swag.
8. Finish wrapping the board in muslin to cover the raw edges of swag and cascades and the top of the board. Bring the muslin forward from underneath the board and staple in place.



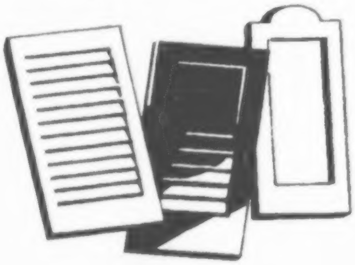
Fabric Fills for Shutters

Interesting effects can be achieved in a room containing shutter frames by coordinating fabric fills with wallpaper or paint. To make fabric fills, remove the shutter louvers and fill in the space with fabric. Using a spring rod at the top and bottom of the shutter frame holds the fabric in place. This window treatment is easy to construct. Make narrow hems or casings on the edges of the fabric to fit spring rods. Then, gather the fabric fills onto the spring rods. Figure 15.4 shows the steps involved in making fabric fills for shutters.

Fabrics which gather nicely are suitable for fabric fills. Sheer or soft fabrics are especially good for use in shutter frames. Fabric fill shutters can be used alone or with other window treatments, such as a drapery or shade.

Equipment and materials needed include the following:

- fabric (sheer or soft fabrics gather best)
- shutter frame
- spring shutter rods
- scissors
- thread
- sewing machine
- measuring stick



◆ Essential Questions: ◆
Construction of Other Window Treatments

1. What factors affect the type of fabric selected for window shades?
2. What decorative functions do top treatments perform?
3. What is the difference between a valance, a swag, and a cascade?
4. What fabrics are recommended for shutter fills?

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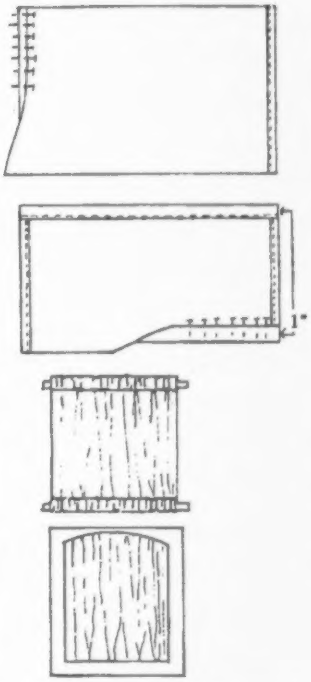
Making Fabric Fills for Shutters



1. Measure the width of the shutter frame. Double or triple this width for full gathers.
2. Fold under and stitch a 1/4" hem on the remaining edges of the fabric. Fold and stitch again to form a double hem if the fabric ravels easily.
3. Turn under a 1" hem on the two edges. This will be gathered onto the shutter rod. Stitch close to the raw edges to make a sleeve for the rod.
4. Slip spring rods through the 1" hems.
5. Adjust gathers and put rod into shutter frame.

Figure 15.4

CARE AND CLEANING OF WINDOW TREATMENTS

An interior design assistant or sales assistant may be asked to help install window treatments in a client's home. The assistant also may be asked to construct and mount displays of window treatments at their place of employment.

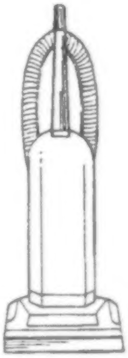
The window treatments in a home or building collect dust and dirt from both the windows and the inside of the room. For this reason they require frequent dusting and occasional washing or cleaning. Many of the newer fabrics must be dry-cleaned because any other type of cleaning will shrink, fade, or in some other way ruin the draperies. The fabric and the lining must be considered when selecting a method of cleaning. Each type of window treatment requires special cleaning procedures. An interior design assistant must be aware of cleaning techniques for these window treatments, not only for store displays, but also for informing the customers about appropriate care.

Yellowing is a common problem with some fabrics. This occurs most often with white, beige, and champagne colors. This discoloration is more noticeable in cellulose fabrics, like acetate and rayon. The problem can be minimized by dry cleaning the fabric before it becomes visibly soiled.

Draperies

Draperies should be cleaned periodically in order to remove the light soil and dust. This is easily done using a vacuum cleaner with a wand attachment. Draperies that are heavily soiled or stained should be cleaned by a professional. The best procedure for vacuuming draperies with a wand attachment is as follows:

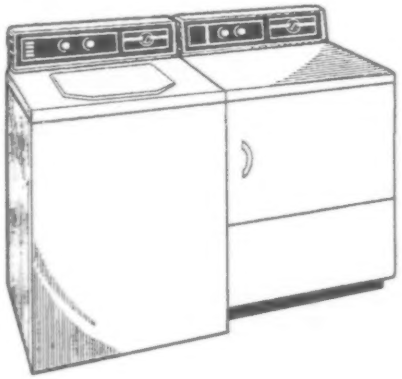
- Close the draperies. This allows the most surface material to be exposed and makes vacuuming easier and more efficient.
- Run the attachment over the entire drapery. Start at the top and use the attachment with an up and down motion. If the draperies have a cornice or valance, start there. Give extra time and care to the top of the pleats or gathers.
- Vacuum both sides. Pull the pleats apart when possible in order to clean all surfaces.
- Dust cords or pulls and all of the hardware.



Some draperies and curtains–mainly those purchased ready-made–can be washed. When washing draperies by hand, first make sure the fabric is washable. To test the fabric, rub a small amount of warm, sudsy water into a corner of the cloth and wipe the corner with a damp cloth. If the color does not run, the drapery can be washed. If in doubt, have the draperies dry cleaned.

Drapery pins should be removed. Each piece should be shaken to get rid of lint and dust. A whisk broom or vacuum cleaner should be used to get the dust out of creases, pleats, and seams. The tub should be filled with enough warm water to cover the cloth. Soap or detergent should be added to make thick suds. The fabric should be spread out flat. The cloth should be placed in the sudsy water and soaked for fifteen minutes. Then, the water should be changed to clean sudsy water. Water should be forced through the fabric. This loosens the dirt. The tub should be emptied and the entire procedure repeated. The fabric should be rinsed thoroughly with clean water. The water should be squeezed out and the edges should be pulled straight. Each piece should be hung over two clotheslines set about three feet apart. They also may be spread flat on towels to dry.

When washing draperies by machine, an average size machine should be loaded with only one pair of large draperies. The cycle should be repeated if the item is very dirty. Special fabrics require a cool or cold rinse at the end. They should not be allowed to spin. Instead, they should be taken out while they are still wet and hung over clotheslines or put in a dryer.



Many pieces can be put back in place while a little damp. To finish draperies, pinch the drapery pleats into shape and pull all of the edges and hems to make them straight and even. A warm iron should be used on the wrong side of the cloth for any touch-up ironing needed.

To rehang draperies, the traverse rod should be closed and the hooks should be placed in the guides or carriers on the rod beginning at the center and working toward the outside. If the draperies are on a nontraverse rod, they should be put back on the rod and spread evenly across the entire area.

All hooks should be attached to the rod carriers and the cord should be pulled to see if the draperies draw properly. If they do not draw, the cord probably has slipped from under the hook located on the back of each carrier.

Top Treatments

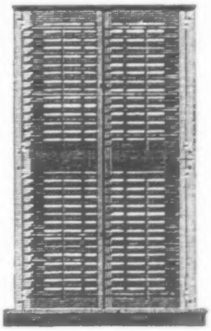
Most window top treatments can be kept clean with regular removal of dust using an appropriate vacuum cleaner attachment. Use the vacuum cleaner attachment to vacuum the surface of the top treatment, being careful to clean between folds and pleats. If the top treatment is heavily covered in dust, it may be necessary to take it down, remove all drapery hardware, and run it through the fluff cycle of the dryer. Remove the top treatment immediately at the end of the dryer cycle and hang.

Curtains and Sheers

Household dust can be removed from curtains and sheers in the same fashion as described above for vacuuming the dust from window top treatments. However, often curtains and sheer become soiled and need washing or dry cleaning. It is important to follow the fabric manufacturers' recommended cleaning method. If the fabric is washable, be sure to use a mild detergent and launder the curtains or sheers by themselves. Washing them with other items is not recommended. Most washable curtains and sheers can be tumbled dry in an automatic dryer. Remove them immediately at the end of the cycle and hang.

Shutters

Shutters need to be cleaned regularly to remove household dust and dirt. For best results, remove the shutters first. Prespray the shutters with a multipurpose or specialized cleaner. Allow water and soap to loosen dirt. Then use a soft cloth or soft brush, scrub the shutters. Wrap the end of a screwdriver with the cloth to get in between the louvers. A soft brush will do a good job of this if the bristles are long enough. Rinse the shutters well. For regular maintenance, vacuum dry shutters with a dusting attachment. Frequent cleaning is recommended to keep shutters looking their best.



Blinds

Frequent dusting of blinds greatly reduces the need for special cleaning. ***Dusting wands*** are special brushes with soft bristles that are made to clean blinds about five slats at a time. Vacuum cleaner tools work very well. Thorough cleaning is usually necessary once or twice a year or more often. The top of the blind should be dusted first, then the blinds should be closed on one side and the entire surface should be dusted. Then, the other side should be closed and dusted. Fabric tapes may be cleaned by using a dry cleaning fluid if they are not too heavily soiled. Before cleaning, the manufacturer's recommendations should be consulted. If blinds are too badly soiled, they may have to be replaced.

Once a year, blinds should be removed for thorough cleaning. Take the blinds down and lay them on old towels outside. Let the blind out all the way and make sure all of the louvers are flat. Prepare a bucket of all-purpose cleaner or ammonia solution. Scrub the blinds with a soft brush on both sides. Hang the blind on a clothesline and hose it off. Gently shake off the excess water and allow to drip-dry before re-installing.

◆ Essential Questions: ◆
Care and Cleaning of Window Treatments

1. How can yellowing of drapery fabrics and linings be minimized?
2. What is the procedure for vacuuming draperies?
3. Why is regular cleaning of window treatments necessary?

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Chapter Highlights

- ☆ Employees working in drapery workrooms or shops that specialize in the construction of window treatments must exercise care and caution when using tools and equipment. They must also strictly follow safety procedures and policies to ensure their safety as well as the safety of others.

- ☆ An interior design assistant or sales assistant may be asked to accompany the measurer to the client's home. For measurements to be taken and recorded correctly, it is important to know the procedures for measuring window treatments and for estimating the amount and cost of materials.

- ☆ The hardware, the differences in weights of fabric, and the differences in procedures in individual workrooms cause the figuring of yardage to vary.

- ☆ The selection of appropriate thread and needle size influences the ease of construction and the final appearance of draperies and curtains. The final appearance is also greatly influenced by the procedures and techniques used in stitching the panels. Only when correct techniques are used in every phase of construction will the finished draperies hang well and look attractive.

- ☆ The tabling process is one of the most important steps in making draperies. Tabling is the handwork performed at large tables during the sewing process. Tabling includes measuring, marking, and folding hems and pleats; pressing draperies; attaching lining; and doing other handwork at large tables.

- ☆ Hems can be sewn in place by hand at the table or taken to a machine and blind stitched. It is important to remember that procedures may vary from one business to another.

- ☆ Crinoline is used most often to construct drapery headings in drapery workrooms. Crinoline is used to stiffen the drapery heading, add body, make the pleats look more tailored and hold more firmly, and give a solid foundation for the hooks.

- ☆ Linings are placed in draperies for several reasons. The lining helps to protect the draperies from soil and from fading. It helps to add weight to create soft, graceful folds. Lastly, it creates a neat, uniform appearance on the outside of the home or building.

- ☆ Three types of pleats are commonly used in drapery headings. They are all spaced and stitched in the same way. The three types of pleats are the box, French or pinch, and cartridge. The finishing procedure applied to a pleat determines the type of pleat formed.

Chapter Highlights

- Some shades are translucent, which means they let in varying amounts of light. Other shades are opaque and shut out light almost completely when closed. These effects can be achieved by using different fabrics. The specific fabric is determined by the shade type and the decorative effect desired.

- Top treatments, such as cornices, valances, lambrequins, swags, and cascades, offer a variety of ways to finish the headings of windows. These headings can greatly enhance window treatments.

- The window treatments in a home or building collect dust and dirt from both the windows and the inside of the room. For this reason they require frequent dusting and occasional washing or cleaning. Many of the newer fabrics must be dry cleaned because any other type of cleaning will shrink, fade, or in some other way ruin the draperies. The fabric and the lining must be considered when selecting a method of cleaning. Each type of window treatment requires special cleaning procedures.

Chapter 16

Bedding Ensembles and Pillows

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

2A Analyze characteristics of materials and workmanship in relationship to durability and use.

2C Explain labeling requirements and appropriate procedures for the care of various furnishings.

3A Analyze products to determine the appropriate style of design.

Chapter Vocabulary

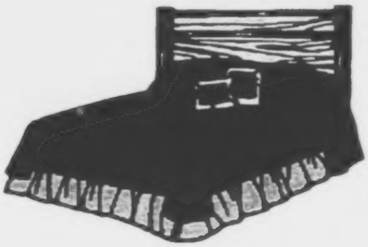
- batting
- bed length
- bed width
- bolsters
- box bedspread
- box pillows
- casings
- cording
- coverlet
- cushions
- drop
- flange-edge pillow
- knife-edge pillows
- pillow sham
- plain bedspread
- quilting
- returns
- round pillows
- ruffled bedspread
- sunburst pillow
- Turkish pillows

BEDDING ENSEMBLES

Bedspreads, coverlets, and pillow shams are often custom-made to match or harmonize with other furnishings, especially draperies. An interior design assistant or sales assistant in a drapery workroom or interior design studio may have the job of constructing these decorative furnishings for customers. These assistants should be able to identify the various types of bedspreads, coverlets, and pillow shams. It is helpful to know about fabrics, measuring steps, and construction techniques.

Bedspreads

A bedroom, more than any other room, reflects the personality and individuality of the person using it. Bedspreads or coverlets should be coordinated with the decor of the entire room. The choice of fabric for a bedspread depends upon the mood to be created and upon the lines, colors, and textures used in the room. Some fabrics appropriate for



bedspreads include taffeta, chintz, velveteen, polished cotton, antique satin, faille, sailcloth, and linen.

When choosing the fabric, it is important to consider the amount of wear the bedspread will receive. Bedspreads used in rooms of children should be made of a strong, durable, easy care fabric. A guest bedroom could have a bedspread made of a delicate fabric that must be dry cleaned.

Since the bedspread is a major part of the color scheme, the color and design of the fabric are important considerations. Colors should suit the decor of the room and the personality of the person using the room.

Bedspreads or coverlets are often lined with taffeta, polished cotton, batiste, or muslin. The lining should require the same care as the fabric. Bedspread fabric and lining should be the same width so that the seams fall in the same places. Heavy and medium weight fabrics may not need linings.

The ***plain bedspread*** or throw bedspread is cut in one section and is the simplest to make. It can be banded with contrasting fabric or ruffles.

The ***box bedspread*** or tailored bedspread is a fitted style with straight side and end pieces. It fits over the bed like the cover of a box. The side and bottom end sections are each separate pieces that are joined to the top section. An inverted pleat is usually formed where the foot section meets the side section or a slit can be cut and an underlay inserted.

The ***ruffled bedspread*** is the most feminine and has a gathered flounce or skirt. Organdy, taffeta, polished cotton, and printed batiste are suitable fabrics for ruffled bedspreads.

The ***coverlet***, sometimes called a cap, can be either a short box bedspread or a short plain bedspread with an overhang that extends just a little below the mattress. The coverlet does not extend to the floor. It is used with a dust ruffle or plain skirt, which extends to the floor. The coverlet and dust ruffle can be made of coordinated fabrics or both can be constructed from the same fabric. Quilts are often used as coverlets.

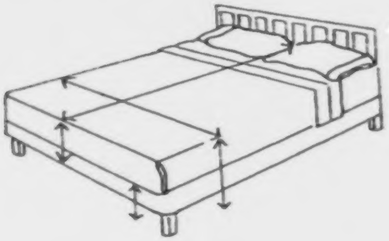
A ***pillow sham*** is a slipcover for a pillow. Instead of tucking a bedspread under a pillow, the pillow sham can be placed on top of the bedspread. A pillow sham is usually made of the same fabric as the bedspread. The pillow is inserted in the back of the sham and placed on top of the bedspread. Pillow shams can be tailored or frilly. A flanged hem gives a sham a tailored look. A ruffled edge creates a frilly look. Edges also can be trimmed with cording, lace, or bands.

Construction of Bedspreads

Accurate measurements are necessary for constructing a bedspread that fits the bed. First, make the bed up with sheets, pillows, and blankets that will be used under the bedspread. Take measurements using a metal tape measure for accuracy. The three most important measurements to take are the length, width, and the drop or overhang. The following are general directions for measuring beds:

1. ***Bed length*** is measured from the foot of the mattress to the head. If the bedspread will be made to cover the pillow, add a tuck-in allowance of 12" to 15".
2. ***Bed width*** is measured from one edge of the mattress to the other.
3. ***Drop*** or overhang is measured from the mattress top to the floor. For a coverlet,

measure the depth of the mattress plus 2" to 3". A dust ruffle's drop is measured from the top of the box spring to the floor.



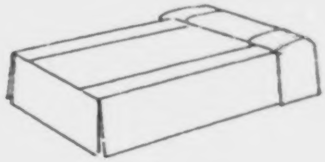
The amount of fabric required can be determined after taking measurements. Include seam allowances and hems when estimating fabric needed. Amounts needed for seam allowances and hems depend upon the style of bed covering and fabric used. More specific measuring techniques include the following:

Plain Bedspreads

- Determine the length by measuring from the floor, over the foot of the bed, over the pillow, and to the head. Add tuck-in allowance and hem allowances.
- Measure the width from the floor, across the bed, and down to the floor on the opposite side. Allow for hems. If the bedspread must be pieced to obtain full width, add 5/8" for each seam allowance.
- Plain bedspreads are normally cut in three pieces to reach the desired width. A center section should be cut the required length using the full fabric width. Two side sections should be cut the same length and wide enough to extend the rest of the way to the floor.

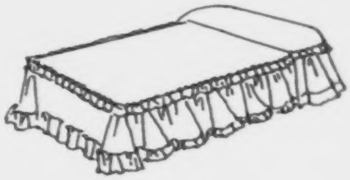
Box Bedspreads

- Measure the top length from the foot of the mattress to the head, adding tuck-in, top hem, and seam allowances. Make the two sides the length of the top. Add allowances for top hem, seams, and pleats.
- The end piece should be the width of the bed plus seams and pleats.
- The depth of sides and end pieces is determined by measuring for overhang and adding the seam allowances and hem.



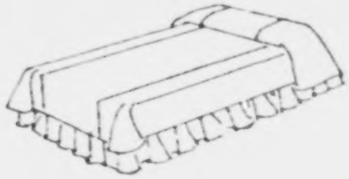
Ruffled Bedspread

- Measure the top the same as for a box bedspread.
- To determine yardage needed for the skirt, add two lengths to the width measurements and double or triple it for fullness.
- For skirt depth, measure from the mattress top to 2" above the floor. A 2" ruffle will bring the bedspread to the floor.



Coverlet

- Measure the length from 2" to 3" below the mattress bottom to the head. Add for tuck-in allowance and hems.
- Take the width from 2" to 3" below the mattress on one side, across the bed, and down to the same point on the opposite side. Allow for hems.



Dust Ruffle

- Measure the depth from the top edge of the box spring to the floor. Allow for seams and hems.
- To find the length, take twice the bed length, add the bed width, then add 14" for returns at the head of the bed. ***Returns*** are extensions of the ruffle around the top corner, which keep the box spring from showing. Multiply this figure by 2 to 3 for fullness.
- Dust ruffles are attached to a center section made of muslin. The muslin is placed between the box spring and the mattress. The muslin is cut by measuring the length and width of the top of the box spring.

Quilting

Quilting refers to the stitching together of two or more fabrics with a layer of padding or batting in between. ***Batting*** is a sheet of cotton or wool about one inch thick. Many quilted fabrics give warmth without added weight. Quilting is used quite often for bedspreads. The type and length of thread used to quilt fabrics contributes greatly to the wearability and life of the fabric. If the stitches are too long, they can catch during use or cleaning. If the fabrics used are not compatible or preshrunk, uneven shrinkage may occur.

A variety of quilting patterns may be used. Outline quilting is a type of quilting in which the design is outlined on the fabric. Geometric quilting offers numerous options, such as diamonds, diagonals, squares, and semicircles.

◆ Essential Questions: ◆
Bedding Ensembles

1. Why are color and design of fabric important considerations when selecting a bedspread?
2. What are the three most important measurements to take for fitting a bed with a bedspread?
3. How are these measurement taken?
4. What is a dust ruffle?
5. Why is the choice of thread important in quilted fabrics?

PILLOWS, CUSHIONS, AND BOLSTERS

Pillows, cushions, and bolsters are popular accessories that add color, beauty, and texture to a decor. A drapery workroom or interior design studio may custom-make these accessories for customers with special requests. For example, a customer may want throw pillows to match draperies or seat cushions made from a certain fabric to harmonize with a wall covering. An interior design assistant or sales assistant may work at a business that offers this service and the job description may include constructing pillows, cushions, or bolsters.

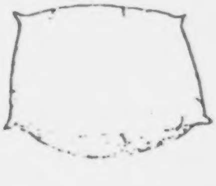
If a person works in a store or department that sells these items ready-made, construction skill may not be needed. A general knowledge of pillows, cushions, and bolsters will be useful in such tasks as planning displays and general sales. These accessories add interest to a display as well as to a home.

Pillows

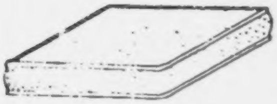
Pillows are available in many shapes and sizes, both plain and decorative. They can be made from many fabrics and trimmed in various ways. Pillows, like cushions and bolsters, fill the need for an accent of color and give the feeling of comfort and luxury in a home or display. Fabrics selected for pillows, cushions, or bolsters should be coordinated with the furnishings, mood, and color scheme of a decor. Texture should harmonize with other fabric furnishings. The type of fabric used determines whether the pillow is suited to formal or informal decors.

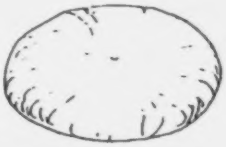
Since pillows are easy to make and are effective decorating tools, an interior design assistant or sales assistant should know how to make them. Pillows can be made in a variety of shapes, sizes, and fabrics with many design interests added by stitching or by adding decorative trimming details. Some of the more common types of pillows are knife-edged, box, round, Turkish, sunburst, flange-edged, and geometric.

Knife-edge pillows are made by sewing two pieces of fabric together without a side panel. Knife-edged pillows are used for decorative accents.

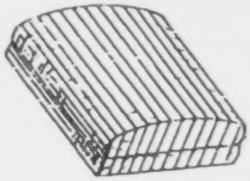


Box pillows have a side panel that provides even height at the center and sides. ***Round pillows*** can either have a side panel or be knife-edged. Round pillows add a decorative touch and are seldom larger than sixteen inches in diameter.

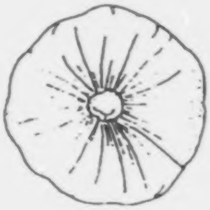




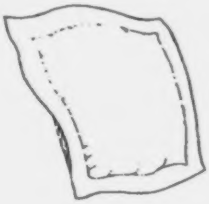
Turkish pillows are often used as couch backs to provide extra seating. They are made by sewing two squares of fabric together and pleating the corner to create the same shape and effect as a box pillow.



A ***sunburst pillow*** can be pleated or gathered. The pleats or gathers radiate from the center point of the pillow. Usually the center is finished with a large, flat, covered button.



A ***flange-edge pillow*** is one that has filling only in the center part of the pillow. This padded area is surrounded by a flat area or flange usually one or two inches wide.



Cushions

The words cushion and pillow are often used interchangeably. ***Cushions*** are usually defined as pads placed on chairs or couches. Chair cushions are used to add color, patterns, or texture to a decorating scheme and to add seating comfort.

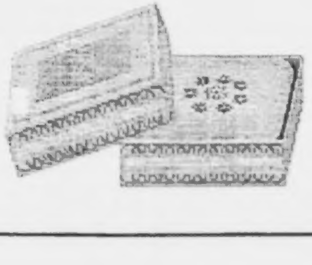
Bolsters

Bolsters are pads that are firmly stuffed to provide support. They can be used on chairs, sofas, and beds. Bolsters are made in various sizes and shapes. They can be round, square, oval, oblong, wedge, or triangular depending upon where they are to be used.

Bolsters usually extend the full length or width of the bed or sofa. They are often used in place of headboards on beds. One long bolster or several small bolsters can be used for the full length or width of a sofa or bed. Bolsters can be plain and simply tailored or elaborate and decorated with tassels, fringe, or braid.

Inner Forms

Well-constructed pillows, cushions, and bolsters hold their shapes and look professional. The inner pillows, or inner forms, play an important part in creating that professional look. The inner forms for these accessories can be made in two ways. Polyurethane, latex foam pillow forms, or fabric forms already filled with loose stuffing can be used. Pillow forms can also be made out of muslin and filled with a preferred filling. These muslin forms are called ***casings***. Some common fillings are kapok, down or feathers, shredded foam rubber, and polyester fiber filling. Table 16.1 lists characteristics of fillings.



Whether a ready-made form or filled casing is used, the pillow should be firm. The cover should be smooth and tight fitting with few wrinkles. To achieve this result, fillings must be packed firmly and securely into the pillow. Some fillings cause a pillow to be lumpy. Other fillings, if used incorrectly, have hollow spaces. The type of filling used should be determined according to the type of outer fabric and by the function of the pillow, cushion, or bolster. A person should consider the characteristics of various fillings before deciding which is most appropriate for a particular pillow and fabric.

When constructing an accent pillow to be stuffed with filling, the casing fabric is usually cut the same size as the fabric for the outer pillow. However, to produce an extra firm pillow, it is sometimes suggested that the casing fabric be cut at least 1/2 inch larger on all sides than the pillow pattern. When completed, it will be one inch larger than the outside pillow cover. This produces a firm pillow.

Although it is not essential, a casing made from closely woven fabric is recommended to cover a form shape. The casing helps a pillow hold its shape and makes it easier to slip a form into the cover.

Construction

When measuring fabric needed for pillows, cushions, or bolsters, measure each surface to be covered and add 1/2" for all seams. Some items, such as a knife-edged pillow, have only a length and a width. Others, like a box pillow or square bolster, have depth as a third measurement.

For a rectangular knife-edged pillow, measure the length and width desired. Then, add 1/2 inch on each side for seaming the cover together. If a pillow 12 inches by 15 inches is desired, the fabric pieces should measure 13 inches by 16 inches.

Characteristics of Fillings

Filling	Characteristics
Foam rubber	• Retains shape well • Is very durable • Is softened and destroyed by dry cleaning solvents or exposure to dry air and sunlight • Inexpensive • Nonallergenic • Develops an unpleasant odor with age
Polyurethane foam	• Manufactured foam • Lightweight, yet strong and durable • Nonallergenic • Inexpensive • Will not absorb water
Polyester fiber filling	• Manufactured fiber • Resembles cotton batting in texture • Machine washable and dryable • Inexpensive • Nonallergenic
Kapok	• Made from plant seed fiber • Soft, silky texture • Will not absorb water • Lacks durability, pulverizes after extended use
Down	• Very fine duck or goose feathers • Very soft • Requires frequent fluffing • Feathers are pulled out if pillow is vacuumed • Expensive • Requires strong, heavy cloth for casing • May cause allergic reactions

⇨ ***Table 16.1***

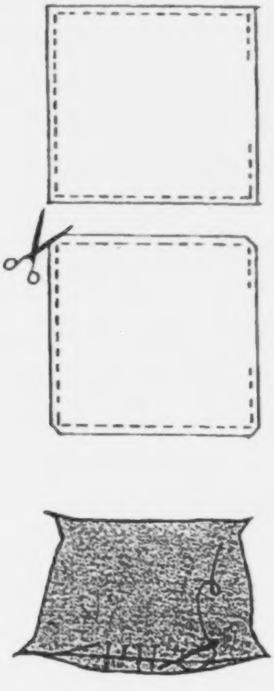
For a box pillow, measure the top and bottom as for a knife-edged pillow. Then, add the boxing (the strip of fabric that joins the top and bottom), measure the distance around the edges of the pillow, and add 1 inch to the length and width for seams.

Measure the length, circumference, and diameter of bolsters. Add 1/2-inch seam allowances all around except at the zipper closure, which should have a 1-inch seam allowance.

When cutting the pieces from fabric, consider lengthwise and crosswise grain. Match the plaids and patterns whenever necessary. Some styles of pillows, cushions, or bolsters might be cut on the fabric bias. Specific techniques used in construction of pillows, cushions, and bolsters vary with the style and shape of the item and with the type of fabric used. Basic sewing techniques should be used in construction, such as sewing straight and curved seams and turning corners.

The simplest type of pillow to construct is the knife-edged pillow. Steps in making this pillow are described below and illustrated in Figure 16.1:

1. Cut two pieces of fabric the size and shape desired, adding 1/2" for each seam allowance.
2. Pin the two pieces with right sides together, matching the grain lines.
3. Stitch 1/2" from the edge, leaving an opening large enough for turning the fabric and inserting the form.
4. Backstitch at the end of each seam. When stitching square or angular shapes, take a stitch across each corner or point.
5. Trim square corners diagonally and trim all angular points.
6. Turn the cover to the right side and insert the form.
7. Turn the edges of the opening to the inside and pin.
8. Machine stitch or hand sew edges together.



⇨ Figure 10.4

Besides stitching the opening together, several other types of closings can be used on pillows, cushions, and bolsters. These other closures often are preferred because they allow the removal of the cover for easy cleaning. Examples include zippers, Velcro, and upholstery tape with snaps. A zipper is a sturdy closing and can withstand hard wear. Velcro and upholstery tapes with snaps are good closures for opening pillows quickly and easily, but do not last as long as zippers.

Invisible or conventional zippers may be used. Upholstery zippers provide extra strength. A zipper is usually placed in a back seam of a knife-edged pillow. In a box pillow, the zipper is usually centered on a side panel of the boxing, but it can be enclosed in a seam. A bolster zipper is usually sewn in a back seam.

Nearly any fabric, except a sheer, can be used for the outer fabric cover. Strong durable fabrics like corduroy, canvas, and denim are best for pillows and cushions that receive hard use. Velvet, velveteen, satin, and chintz make luxurious pillows. Upholstery fabrics treated to repel stains can make attractive, easy-care pillows, cushions, and bolsters.

New and daring effects can give variety and interest to pillows, cushions, and bolsters by combining unusual colors, textures, and prints. Many types of decorations can be used in designing these accessories. Examples include cording, ruffles, buttons, appliques, monograms, embroidery, tufting, quilting, braiding, fringe, tassels, lace, and rickrack. The possibilities for creating a variety of pillows are almost endless. Imagination and talent can help create interesting pillow accents for a room.

Cording is a finish often applied to pillows, cushions, or bolsters. It is made by covering a length of cord with a bias strip of fabric. Cording is stitched into the pillow seams.

◆ Essential Questions: ◆
Pillows, Cushions, and Bolsters

1. Why is a general knowledge of pillows, cushions, and bolsters important to the interior design assistant or sales assistant?
2. What is the difference between a pillow and a cushion?
3. How are bolsters used?
4. What are two ways that the inner forms for pillows, cushions, or bolsters can be made?
5. What factors should be considered when choosing the filling for a pillow, cushion, or bolster?

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Chapter Highlights

- Bedspreads or coverlets should be coordinated with the decor of the entire room. The choice of fabric for a bedspread depends upon the mood to be created and upon the lines, colors, and textures used in the room. Some fabrics appropriate for bedspreads include taffeta, chintz, velveteen, polished cotton, antique satin, faille, sailcloth, and linen.
- Bedspreads or coverlets are often lined with taffeta, polished cotton, batiste, or muslin. The lining should require the same care as the fabric. Bedspread fabric and lining should be the same width so that the seams fall in the same places.
- The ruffled bedspread is the most feminine and has a gathered flounce or skirt. Organdy, taffeta, polished cotton, and printed batiste are suitable fabrics for ruffled bedspreads.
- Quilting is used quite often for bedspreads. The type and length of thread used to quilt fabrics contributes greatly to the wearability and life of the fabric. If the stitches are too long, they can catch during use or cleaning. If the fabrics used are not compatible or preshrunk, uneven shrinkage may occur.
- A variety of quilting patterns may be used. Outline quilting is a type of quilting in which the design is outlined on the fabric. Geometric quilting offers numerous options, such as diamonds, diagonals, squares, and semicircles.
- Pillows, like cushions and bolsters, fill the need for an accent of color and give the feeling of comfort and luxury in a home or display. Fabrics selected for pillows, cushions, or bolsters should be coordinated with the furnishings, mood, and color scheme of a decor.
- Pillows can be made in a variety of shapes, sizes, and fabrics with many design interests added by stitching or by adding decorative trimming details. Some of the more common types of pillows are knife-edged, box, round, Turkish, sunburst, flange-edged, and geometric.
- Bolsters are made in various sizes and shapes. They can be round, square, oval, oblong, wedge, or triangular depending upon where they are to be used.
- Well-constructed pillows, cushions, and bolsters hold their shapes and look professional. The inner pillows, or inner forms, play an important part in creating that professional look.
- New and daring effects can give variety and interest to pillows, cushions, and bolsters by combining unusual colors, textures, and prints. Many types of decorations can be used in designing these accessories. Examples include cording, ruffles, buttons, appliques, monograms, embroidery, tufting, quilting, braiding, fringe, tassels, lace, and rickrack.

Chapter 17

Safety and Sanitation

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

5A Apply safety rules in performing various workplace procedures according to industry standards.
5B Identify potential hazards and prevention practices.
5C Summarize laws pertaining to safety and sanitation practices.
5D Demonstrate appropriate responses to emergency situations.
5E Determine workplace procedures that protect the environment.

Chapter Vocabulary

accident-prone
combustible materials
emotional fatigue
Environmental Protection Agency (EPA)
fatigue
flammable materials
hazardous
mental fatigue
Occupational Safety and Health Act
physical fatigue
poisonous
robbery
shoplifting
sick building syndrome
sprains
strains
tornado warning
tornado watch

Safety and sanitation are essential in any business. Whether cleaning, rearranging furniture, or constructing draperies, the interior design assistant should practice safe and sanitary work habits. Accidents due to carelessness can cause injury and loss of work time that hurt both the employee and the business. Other problems could occur if a customer were involved in an accident. Employees should take special note of safety precautions that apply to their place of employment and to individual tasks. Needless accidents can be avoided if individuals observe safe practices and are constantly careful.

The use of many harmful chemicals in the housing and furnishings industry demand that employees follow strict sanitation practices.

GENERAL SAFETY AND SANITATION RULES

Government, management, and employees all contribute to the safety of a housing and furnishings operation. The ***Occupational Safety and Health Act*** was passed in 1970 to help prevent workplace accidents. The Occupational Safety and Health Administration (OSHA) enforces the act. Both the employee and the employer have certain responsibilities under the act. The employer must provide a safe and healthful environment by training and updating its employees on safety and sanitation procedures. The employer should train employees in first aid and keep workers thinking about safety and working safely. Workers are responsible for obeying the rules listed in the act such as working safely and trying to prevent accidents.

SAFETY
FIRST

Management's responsibilities include the following:

- Providing a safe facility for employees and customers.
- Establishing safety rules and procedures.
- Providing employees with safety training.
- Enforcing safety rules and regulations.
- Providing fire extinguishers and first aid kits.

Employees' responsibilities include the following:

- Observing safety rules and procedures.
- Maintaining safety standards to prevent accidents.
- Identifying and reporting hazards.
- Knowing the location and use of emergency equipment.
- Knowing emergency procedures and escape routes.

FIRE
EXTINGUISHER

Safety and Sanitation in the Physical Surroundings

Neglect, carelessness, thoughtlessness, or ignorance causes most accidents. Unsafe conditions or unsafe acts also cause accidents. Unsafe conditions should be corrected or reported as soon as they are observed. When an unsafe condition exists, warning signs should be posted to alert others until the condition can be remedied. Unsafe acts occur when workers are not alert, are in a hurry, or do not know or follow the rules. Some workers may appear to be accident-prone. ***Accident-prone*** describes people who tend to have more accidents than others. Carelessness or a lack of physical coordination may cause these frequent accidents.

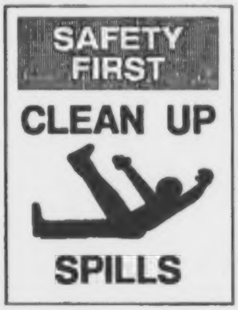
Fatigue can cause accidents. ***Fatigue*** is weariness caused by labor or exertion. Its cause may be physical, mental, or emotional. ***Physical fatigue*** results from heavy work or physical activity. Home furnishings employees may feel physical fatigue from standing, walking, or lifting and moving furniture or accessories. ***Emotional fatigue*** or ***mental fatigue*** may result from a person's feelings about his or her self, job, or personal life. When people experience bad feelings about themselves or toward others, they are likely to feel tired and more likely to have accidents.

Fatigue can be avoided by practicing the following suggestions:

- Get plenty of sleep and rest. Periodic rest breaks are best.
- Eat a well-balanced diet.
- Develop good working relationships with coworkers.
- Use time and energy saving work methods.
- Try to leave personal problems at home.

There are ten general rules of safety listed below. A home furnishings employee should follow them as closely as possible. Following these rules may help prevent a serious accident or injury.

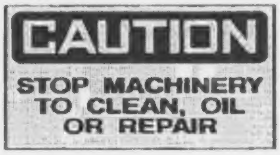
1. Report unsafe conditions immediately. Safety is everyone's business.
2. Remove items from pathways and clean up spills on floors. Use common sense.
3. Report all injuries, no matter how slight. Get immediate first aid.
4. Watch for dangerous conditions at all times.



5. Walk; do not run, especially in halls or on stairs. Always stay alert.
6. Look through windows in swinging doors to make certain that the path is clear before opening the doors. If there is no window, open the door carefully and slowly.
7. Report all defective equipment. Be certain that instructions and operating techniques are clear before attempting to operate any equipment.
8. Avoid horseplay at all times. Injury can result from carelessness.
9. Repair small breaks in tile or other floor covering to prevent someone from tripping.
10. Strategically place furniture on rugs so that the corners do not stick out in an aisle over which a person could trip.

Workroom Equipment Safety and Sanitation

The type of equipment used in each area of furnishings varies as the areas of furnishings vary. An interior design assistant should be careful when using any type of equipment. An assistant may be asked to use equipment, such as sewing machines, glue guns, staple guns, irons, saws, sanding machines, carpet laying equipment, and hand tools like hammers, screwdrivers, and chisels. General guidelines for working with the equipment include the following:



- Never attempt to use an unfamiliar machine without first studying the manufacturer's operation handbook.
- Turn machinery off when changing needles or replacing parts.
- Replace worn parts with identical new ones.
- Keep eyes on the machinery and on work while using the equipment.
- Clean all machinery as recommended in the operator's manual.
- Use hammers carefully to prevent smashed thumbs and fingers.
- Use glue guns carefully to prevent burns.

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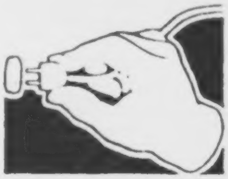
Electrical and Appliance Safety

Flickering lights or appliances are warnings that an electrical line is overloaded. This may happen quite often in home furnishings establishments, especially if there are many displays requiring electricity for lamps, cabinets, or spotlights. Displays often require numerous extension cords, which are often overloaded. The electrical safety precautions described below should be followed:



- Use a cord in good repair. A worn cord is dangerous and can cause fire or shock.
- Keep lamp and cabinet cords as short as possible. Wind and tie up extra cord and attach cord to a baseboard or behind a piece of furniture so that no one can trip over it. Do not conceal cords under rugs.
- When using an electrical appliance, always pull the cord from the wall outlet before pulling the other end out of the appliance.
- Check the maximum wattage allowed by the fixture and abide by it. If the correct wattage for the fixture is not known, use a bulb no larger than sixty watts.

Supply Room Safety and Sanitation Rules

The supply room is one of the most important places to the home furnishings business. This room must be kept orderly, well stocked, and free of clutter. The supply room can be the store's greatest asset or its greatest disaster. The following are supply room safety rules:

- Never leave equipment on when not in use.
- Keep supply closets orderly. Make sure all items are in place and easy to locate.
- Keep items off the floor.
- Keep cleaning cloths in covered, metal containers.
- Do not reach with bare hands into waste baskets or utility shelves that cannot be seen.
- Follow all product and manufacturing directions for equipment, supplies, and merchandise.

Safety for Stairways and Walkways

Stairways in a home furnishings establishment require certain safeguards and precautions. The manager or another appointed person should check the lighting, handrails, and condition of the steps and coverings for all stairways daily. Employees should report potential dangers or problems. Figure 17.1 gives suggestions of what to do and look for to maintain safe stairways and walkways.

◆ Essential Questions: ◆
General Safety and Sanitation Rules

1. What is OSHA and what is its purpose?
2. What are three common causes of workplace accidents?
3. How is fatigue related to workplace safety?
4. What are five suggestions for avoiding fatigue?

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Safe Stairways and Walkways

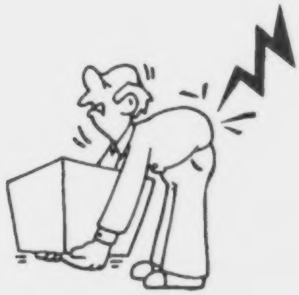
- Light switches should be located at both the top and bottom of stairways.
- Handrails should be securely fastened on both sides of the stairway and should always be used when climbing up or going down the steps.
- Carpet should be firmly attached to the steps all along the stairs. Loose or worn carpeting can lead to insecure footing resulting in slips or falls.
- All objects should be removed from stairways. Items should never be stored on stairways.
- Furniture is moved almost daily in a furniture store. All pathways must be clear and wide enough for a sofa, table, or cabinet to pass safely without damaging items in its path.
- All walkways should be free of objects, furniture, or other items that could cause someone to trip.

⇨ ***Figure 17.1***

MEDICAL EMERGENCIES

Strains and Sprains

Sprains result in swelling, pain, and weakening of the joint. ***Sprains*** occur when people twist muscles or ligaments. ***Strains*** cause pain and occur when a muscle is overused. People get sprains and strains by lifting improperly, carrying objects improperly, pushing and pulling items, mistaking their strength, being careless, and using arms and legs improperly. If a person can avoid reaching, pulling, and twisting, the number of sore muscles will be reduced. All home furnishings employees must be aware and practice safety when lifting and moving objects.



When performing any job, a person should use the greatest number of muscles and muscle groups possible. This makes the workload less tiring. For example, it is easier to lift a fifteen-pound box with two hands than it is with one hand. Leg and arm muscles are stronger than back muscles. When lifting heavy objects, it is important to use the legs and arms as much as possible to take the load off the back and other weaker muscles. When working on a job near the floor, bend the knees and kneel or squat instead of bending from the waist. This practice keeps a person from straining and tiring back muscles.

When moving heavy objects, such as sofas, cabinets, or desks, it is better for a person to push, pull, roll, or slide them rather than to lift and carry them. It is not advisable to push or pull most pieces of furniture because their fragile legs could break or scrape the floor. Most home furnishings establishments have dollies that are used to move larger pieces of furniture. This practice is better for the employee and the furnishings.

If a person must lift or carry objects, he or she should follow the rules. The person should test the object first by lifting one corner. If it feels too heavy, a person has several options from which to choose. These options include the following:

1. Ask for assistance.
2. Divide the load and make several trips if possible.
3. Use a hand truck or dolly for assistance.
4. Push or drag the object (depending on what it is).
5. Have someone else carry it.

The purpose of knowing how to lift objects properly is to protect the arms and back. It is always important to place the feet about eighteen inches apart for good balance. A person should never lift or carry items that block the vision. A person should grip the object firmly as close to the body as possible and lift by pushing upward with the leg muscles.

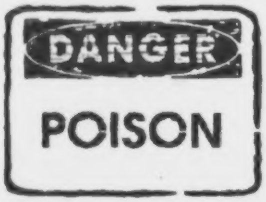
When lifting and reaching, a person should observe the following rules:

- Use a stable footstool or ladder when possible.
- Stand as close to the object as possible. Keep weight directly over the feet.
- When reaching for an object that is above the head, grab it with palms up, and then lower it.

Reaching too high, too far, or too fast can cause strains even if the object is light. Twisting suddenly pulls the back muscles and can strain them. Instead of twisting the top half of the body, a person should try taking short steps to make the turn.

Chemicals

Various chemicals are used in the home furnishings industry. An employer should make sure each employee knows the proper use and safety procedures of each chemical. Cleaning solutions can have very strong cleaning strengths as well as strong fumes. Some cleaning solutions are strong enough to harm bare hands. Gloves may be needed to protect hands. Adequate ventilation also is needed.



Employees should never place or store chemical products within the reach of children or in a location where the container might fall. Employees should read all directions, warnings, and special information on packages and containers labeled as hazardous. ***Hazardous*** means that the chemical could be dangerous to a person's health. ***Poisonous*** means that the chemical is capable of causing death. The law requires that poisonous substances be labeled properly. The antidote or treatment that should be used if a poisonous chemical is swallowed or splashed in the eyes always should be printed on the package. Employees should wear protective clothing and shoes when handling chemicals.

Some products that are safe when used alone can become dangerous when combined with another product. Employees should never mix two or more substances, such as bleach solutions, ammonia, toilet bowl cleaners, rust removers, or other special cleaners. These chemical mixtures could release irritating or harmful gases.

Cuts, Bumps, and Bruises

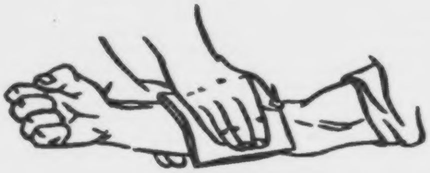
Cuts, bumps, and bruises can hurt and become infected if they are not cared for properly. These injuries usually result from carelessness. Knowing the proper way to handle trash or waste helps reduce the chance of injury and infection.

Employees should never handle trash with bare hands. The trash could contain broken glass, nails, or other potentially harmful substances. After emptying a wastebasket into another receptacle, employees should use the empty wastebasket to push trash down in the receptacle to make room for more.

Furniture and accessories often arrive at the warehouse in crates that must be dismantled and thrown away. Extreme caution should be exercised during this process. Employees should look for nails, splinters, broken glass, or other objects.

An interior design assistant is likely to use some type of knife whether working in a supply room or warehouse, installing carpet, or opening wallpaper packages. Employees must use common sense to make sure they use, store, and carry knives safely.

- Keep knives and cutting tools sharp and in good condition. Dull knives can be more dangerous than sharp knives when they are used carelessly.



- Do not turn and talk to others while handling knives.
- Do not pick up knives by the blade.
- Never try to catch a falling knife. Jump out of the way.
- Handle glass with care to avoid breaking it and being cut.
- Discard promptly and safely all chipped glasses and dishes.
- Use a broom to sweep up all broken porcelain and glass. Do not use bare hands.
- Protect hands with a cloth or gloves when using steel wool.
- Remove or bend down nails and pieces of metal protruding from barrels and boxes.

There are certain procedures to remember to treat cuts and bruises. Rubber gloves should always be worn when administering first aid to others. Minor cuts should be cleansed with water and left uncovered unless a dressing is needed to protect the wounds from infections. A health care professional should be consulted to attain further treatment or care for a puncture wound. A tetanus shot may be needed following a puncture wound.

Severe bleeding should be stopped immediately. Shock and loss of consciousness may result from the rapid loss of blood. The wound should be covered with a clean dressing, such as a thick pad

EMERGENCY
DIAL 911
FIRE-POLICE
AMBULANCE

of gauze or a folded clean cloth. Direct pressure should be applied with the hand. Professional medical care should be sought as soon as possible.

Most bruises are relatively small injuries. A cold compress should be applied on the injured area to help prevent additional swelling of tissue and to slow internal bleeding. Seek professional medical care as soon as possible if anything unusual occurs.

Management must keep accident records of all injuries. Written records of accidents should include the name of the person injured, type of injury, date of injury, and location of injury. This information is necessary for OSHA and insurance purposes. It protects the employer and the injured person. Accidents must be recorded regardless of how minor. Even minor injuries can result in permanent damage if ignored.

◆ **Essential Questions:** ◆
Medical Emergencies

1. What causes strains and sprains and how can they be avoided?
2. How are chemicals a hazard in the workplace?
3. What type of records must be kept of workplace accidents and injuries? To whom must these injuries be reported?

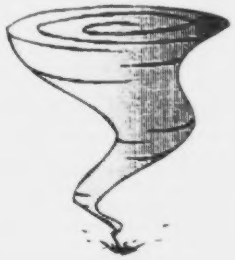
WEATHER OR DISASTER EMERGENCIES

Every business should plan for weather emergencies and disasters as part of its overall safety program. Business owners or managers should identify the hazards most likely to occur in their particular area and make plans for dealing with them. It also is a good idea for owners and managers to give employees instructions about how to handle those emergencies that are unlikely to occur. Some home furnishings businesses have large, front windows containing expensive displays. This merchandise could be damaged in serious weather emergencies. Businesses must be alert to weather conditions and be sure their employees know safety procedures.

Weather Alerts

For any type of severe weather, it is important for employees to stay aware of what is happening. The most common sources of information are news and weather reports on local radio and television stations. A weather radio can be purchased to provide a twenty-four hour weather report.

Tornadoes



Tornadoes are threats in many parts of the country. People's activities do not cease even when conditions are favorable for tornadoes to develop. People continue to work, eat, and shop. All employees should learn emergency procedures for tornado safety because a tornado can strike suddenly.

The National Weather Service issues two types of reports on tornadoes. A ***tornado watch*** means conditions are favorable for tornadoes to develop. A ***tornado warning*** means that a tornado has been sighted or located by weather radar, and persons near the storm should take cover immediately.

Tornado watches and warnings are announced to the public by radio and television stations. Most television stations place a symbol in the corner of the screen. An employee

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or manager should monitor the radio or television during a tornado watch to obtain continuous weather advisories. This person should warn employees and customers to take cover when necessary.

Each employee should know the safest place for shelter in the store. Safe places include tornado shelters or cellars, underground excavations, and substantial steel framed or reinforced concrete buildings. Windows and structures with wide free-span roofs should be avoided. A person should stand in an interior hallway on a lower floor, preferably in the basement. Radios and television sets should be turned on, but people should not telephone the weather bureau or other information center.

Power Failures

A common problem caused by both fire and severe weather is power failure. Power failure may occur as a result of other causes as well. Every business should have a back-up system or a plan for evacuating customers and employees in the event of a power failure. Panic due to the sudden darkness is the greatest hazard. Providing exits that are well marked and kept clear can reduce the chance of panic. Flashlights should be available to provide light in case of a power failure. Calm employees who are familiar with evacuation plans should direct customers calmly and safely out of the building.

◆ Essential Questions: ◆
Weather or Disaster Emergencies

1. What is the difference between a tornado watch and a tornado warning?
2. What should be done in case of a power failure?

FIRE SAFETY PROCEDURES

Almost any material can become fuel for a fire including food, cleaning cloths, flammable liquids (grease or cleaning fluids), wood, furniture, and plastics. Fire is always a concern in a home furnishings business.

Fire can cause death in several ways. Fire consumes the oxygen that we need to breathe. Normal air contains about 21 percent oxygen. The oxygen level drops very rapidly during a fire. If the oxygen level falls below 17 percent, muscle control and clear thinking become difficult. Attempts to escape become irrational. Breathing stops when the oxygen level falls below 6 percent. Brain death occurs after four to six minutes without oxygen.

Fire also produces hot air, smoke, and toxic fumes which can kill. People tend to breathe faster when a fire is near because of the heat, fear, and decreased amount of oxygen in the air. This rapid breathing increases the amounts of poisonous gases inhaled. These gases may impair sight, smell, and reasoning power.

The heat produced by a fire can cause loss of consciousness or even death within several minutes. The human body can only withstand high temperatures for a few moments. High temperatures are those between 150°F and 250°F.

Smoke is probably the major threat to people. Smoke moves quickly. It hampers visibility, obscures light, and blocks vision. Smoke particles irritate the respiratory system, impair sight, and cause coughing and sneezing. Smoke

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causes difficulty in breathing, seeing, and thinking clearly. It is important to note that where there is smoke there is not necessarily a fire out of control. A smoldering mattress produces great amounts of smoke that may be picked up in air-conditioning systems and transported over large areas of the store. Since smoke is warmer than air, it starts accumulating in the ceiling areas and works its way down. The only fresh air left will be at or near the floor. Employees must learn to get on their hands and knees to take advantage of the fresh air that might be available. Smoke eventually gets in the eyes. Eyes can only withstand a certain amount of smoke before they close by reflex. Once the eyes are closed, they will not reopen in a smoke-filled area.

Fire Prevention

Fires can be prevented. Fire is a life-threatening danger to everyone in or near a building. Strict enforcement of fire codes by different governmental agencies shows that fire safety is an important concern. It is imperative that someone be in charge of checking the dates of the most recent inspections of both the fire alarm system and the fire extinguishers. There should be routine in-house inspections to be sure that all equipment is working correctly. Employees and management should recognize fire hazards and correct or report them immediately.

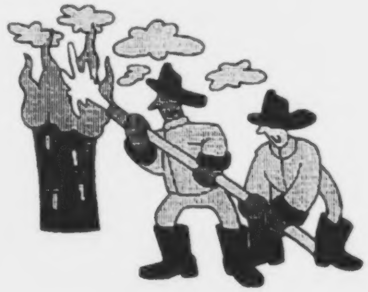
FIRE PREVENTION
EDUCATION

Figure 17.2 lists many common fire hazards in the home furnishings industry. These fire hazards should be noted and corrected as soon as possible.

Fire and Smoke Detection

Each employee should know a store's safety procedures in case a fire occurs. All home furnishings establishments must have some sort of fire alarm or fire detection system. The fire detection system can be a manual system, an approved automatic fire detection system, or an approved automatic sprinkler system that provides protection throughout the building.

When the store is occupied, the system must sound some sort of audible alarm throughout the store so that emergency actions can be started. There also should be some type of public address system that can be used to warn employees and customers of the situation. Employees may check with the supervisor for specific details at each place of employment.



Reporting a Fire

A person should never try to extinguish a fire alone. The supervisor, manager, or other designated person in a particular area should be notified first. The fire department then

Common Fire Hazards

- ✗ **Electrical Equipment**
  Electrical equipment used incorrectly or in poor condition.

- ✗ **Combustible Materials**
  Combustible materials, such as glue or cleaning solutions, placed near a heat source. ***Combustible materials*** are materials that catch fire easily and ignite with an explosive reaction. They also produce fumes which can be ignited from a nearby heat source, such as a gas furnace or lighted match.

  Spontaneously combustible materials, such as cleaning cloths, may ignite on their own if stored in tight spaces. If these items are used in home furnishings facilities, they should be discarded in an outside trash dumpster immediately after use. They should not be stored indoors or placed in indoor trash containers.

- ✗ **Flammable Material**
  Flammable materials are materials that catch fire easily, such as newspapers and empty cardboard boxes, will ignite easily when touched by a flame or will allow flames to travel through them quickly. They should not be stored in a home furnishings business or home.

- ✗ **Matches**
  Matches or other fire producing items, such as cigarette lighters, should not be left out. Matches and cigarette lighters used carelessly could cause a fire or burn holes in upholstered items.

- ✗ **Fire-producing Equipment**
  Fire-producing equipment, such as furnaces, stoves, and water heaters, should be protected. A special effort should be made to keep potential flammable materials away from this equipment.

- ✗ **Blocked Exits**
  Each building should have at least two exits. These exits should never be blocked by furniture, equipment, or trash. All outside exits should be unlocked from the inside and should be clearly marked.

- ✗ **Inoperative Equipment**
  Inoperative firefighting equipment for extinguishing small fires should be repaired as soon as discovered. Missing fire extinguishers should be replaced.

➩ ***Figure 17.2***

should be called if necessary. Other employees and customers should be notified immediately.

The fire department will need the following information:

- Address of the business.
- Name of the business.
- Location of fire in the business.
- Size of the fire.
- Caller's name.
- Type of fire.

Fires may be reported by activating a fire alarm, calling the fire department, or pushing a button on a special fire alarm system that notifies the fire department. After turning on the alarm, a person should wait in a safe place for the firefighters to arrive. Someone will need to give them directions and information regarding the fire.

The fire department's telephone number and other emergency numbers should be clearly posted beside each telephone. These numbers are usually given on the inside cover of telephone directories. A person in a community with the service could call 911.

Moving to Safety

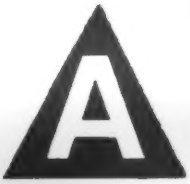
All employees should be familiar with the evacuation plan in case of fire. Employers may conduct drills to familiarize employees with safety procedures. Employees should not risk their lives by trying to save personal belongings if an evacuation of the building is necessary. Once a fire starts, it can spread rapidly. Since there usually is little time to get out and much confusion, it is important that each employee be trained to know what to do.

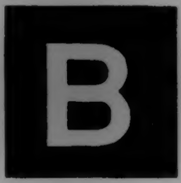
Extinguishing Fires

A fire can start when a flammable substance, heat, and oxygen come together in proper amounts. A fire can spread rapidly in a furniture store. Removing any one of the three substances will extinguish the fire or prevent it from starting. A fire must have oxygen, fuel, and heat to burn. Almost any material can become fuel for a fire including food, cloth, flammable liquids, wood, furniture, and plastics. A small fire in an ashtray or a pan may be extinguished without much danger. A larger fire is not as easily extinguished. To extinguish a fire, one of the three essential ingredients must be removed.

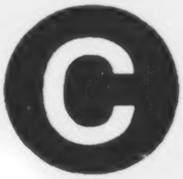
There are basically three types of fires. They include class A, B, and C fires. Each type of fire must be extinguished in a different way.

Class A Fire. This is the most common type of fire and occurs in wood, paper, textiles, and rubbish. This fire requires the cooling and soaking effects of water. Water should be directed at the fire, not at the smoke. A side-to-side motion should be used to wet the entire burning surface. Water should only be used on class A fires. A multipurpose dry chemical can also be used to subdue the flames and slow further combustion by coating the burning materials. Class A fire extinguishers are easily identified by a green triangle containing the letter A.





Class B Fire. This type of fire occurs in oil, grease, gasoline, and other flammable liquids. These liquids burn and spread quickly. The first step in extinguishing a class B fire is to limit the oxygen on which the fire feeds. Dry chemical, carbon dioxide, or foam extinguishers should be used to smother the flames. Direct the discharge of the extinguisher across the front of the fire. Dry chemical extinguishers should be used with quick side-to-side motions. Carbon dioxide extinguishers should be released at the nearest edge of the fire with slow side-to-side motions. Class B fire extinguishers are identified by a red square containing the letter B.



Class C Fire This fire involves electrical equipment and requires extinguishing agents that do not conduct electricity. Foam and water are conductors of electricity and therefore should not be used on this type of fire. When the electrical source is disconnected, class C fires often become class A fires. Dry chemical, carbon dioxide, compressed gas, and vaporizing liquid extinguishers should be used on class C fires. Class C fire extinguishers are identified by a blue circle containing the letter C.

[illegible] type of fire extinguisher [illegible] the fire worsen. Common errors include the use of water on a grease or an electrical fire. A multipurpose dry chemical extinguisher labeled ABC extinguishes most types of fires.

◆ *Essential Questions:* ◆
Fire Safety Procedures

1. What are two important reasons for getting help when a fire occurs?
2. What information should be reported to the fire department when reporting a fire?
3. What are the three classes of fires? How can they be extinguished?

UNIQUE EMERGENCIES

Robbery is rare in a home furnishings establishment. ***Robbery*** can be defined as taking property that belongs to someone else through the use of violence or intimidation. Individual stores' procedures for reporting such emergencies vary. Emergency procedures should be discussed and understood by all employees.

Shoplifting is a common problem in any retail establishment. ***Shoplifting*** can be defined as stealing articles from a store during store hours. Small objects and accessories are easy targets for shoplifters in a home furnishings establishment. Placing such items away from exit doors, near employees, or in locked display cabinets are examples of ways to reduce shoplifting occurrences. Constant monitoring of the store is another means of prevention.

Shoplifting often occurs even if precautions are taken. Employees must be careful in identifying or accusing a suspected shoplifter. The manager should be notified if an employee suspects a customer of shoplifting.

Laws vary from state to state and from city to city within each state. In Texas, the employee or manager should first follow the suspected shoplifter because it is better to see the customer hide merchandise in his or her pocket or bag. A false accusation could result in a lawsuit. The suspected shoplifter must then pass the cash register indicating lack of intent to pay for the merchandise. The employee cannot approach or accuse the customer of shoplifting until both the customer and the merchandise have left the store. The business then has the right to retrieve the merchandise by searching the customer's possessions.

PROTECTING THE ENVIRONMENT

Some of the major environmental concerns that closely affect the housing industry are indoor air pollution, conservation of natural resources, and crowded landfills. Measures

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must be taken to change current operations in an attempt to protect individuals and the environment.

ENVIRONMENTALLY
SAFE

Indoor Air Pollution

The ***Environmental Protection Agency (EPA)*** is a federal agency created to set and enforce pollution standards, to conduct research, and to assist state and local governments in pollution control. The EPA suggests that health-related problems and low worker performance is linked to polluted indoor air. Statistics from the EPA indicate that Americans spend 90 percent of their time indoors. In contract or commercial design, it is critical that materials that keep the air free of pollutants be utilized. In an effort to protect themselves and their clients, interior designers, architects, and the housing industry in general must be aware of any products that are air pollutants.

The term, ***sick building syndrome***, refers to a condition in many buildings where the employees complain of health problems and discomfort linked to poor air quality in the work environment. Materials, such as plywood, particleboard, and some paints, release volatile organic compounds (like formaldehyde) that are the major contributors to sick building syndrome. Worker's physical symptoms may include sore throat, eye and nose irritation, respiratory illness, exhaustion, and loss of memory. Many manufacturers, such as paint manufacturers, have changed the formulas of their paints to eliminate the release of volatile organic compound gases.

Conservation of Natural Resources

In an attempt to conserve natural resources and thus help to protect the environment, many manufacturers are creating housing products with improved efficiency in the use of energy and other natural resources.

SAVE ENERGY
TURN ME OFF

Water conservation has been an environmental concern for many years. Plumbing fixture manufacturers have designed modern water closets (toilets) that use less water (1.6 gallons) when flushed. Electronic faucets are often used in commercial applications, which helps to reduce water waste by 85 percent since the faucet only operates when hands or objects are beneath it. Dishwashers are being redesigned to continuously monitor the wash load conditions. To eliminate the need for pre-rinsing, grinding mechanisms have been added to dissolve food particles. This saves both time and water. The dishwasher cycle is only long enough to get the dishes clean; it then shuts off automatically saving water and energy. These are just some of the many ways that water is being conserved.

The development of more efficient heating, ventilation, and air conditioning (HVAC) units help the environment because less energy is needed for these appliances to operate. Heat pumps have been designed which heat or cool a home by transferring heat from the outdoors to the home or vice versa. Solar heating is another development that helps to conserve energy.

Crowded Landfills

Through remodeling and destruction of old homes, the housing industry contributes greatly to the amount of waste that finds its way into landfills. Many products, like stone and metals, cannot be renewed. It is estimated that between one and two million homes are being built each year which, in turn, depletes many natural resources. Manufacturers are working to create building products from recycled materials. There are several recycled materials that can be used in the housing industry. Old wooden doors can be remilled to make stair rails, hardwood floors, moldings, etc. Newspapers can be shredded and made into blown wall insulation. Newspaper can also be transformed into sub-flooring material and wall paneling. Plastic beverage bottles can be made into polyester carpeting. These are just a few examples of how recycled materials are being used in the housing industry to help conserve our natural resources.

◆ Essential Questions: ◆
Protecting the Environment

1. What is "sick building syndrome" and what is its cause?
2. What measures are being taken by appliance manufacturers to conserve natural resources?
3. How can the housing industry work to reduce waste due to new construction and remodeling?

RECYCLING IS
EVERYBODY'S
JOB FOR
A SAFE
ENVIRONMENT

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Chapter Highlights

- Government, management, and employees all contribute to the safety of a housing and furnishings operation.
- Management must provide a safe facility, establish safety rules and procedures, provide employees with safety training, enforce safety rules and regulations, and provide fire extinguishers and first aid kits.
- Observance of safety rules aid in avoiding accidents.
- The manager or another appointed person should check all electrical and telephone cords, rugs, runners and mats, smoke detectors, electric outlets and switches, light bulbs, stairways, and emergency exit routes.
- Accidents are caused by unsafe conditions or unsafe acts. Fatigue and stress make accidents more likely to occur.
- Written records of accidents should include the name of the person injured, type of injury, date of injury, and location of injury. This information is necessary for OSHA and insurance purposes.
- Panic can be avoided during severe weather by knowing emergency exits, evacuation plans, designated shelters, and emergency procedures.
- The three types of fires likely to occur in a home or commercial furnishings establishment are Class A - wood, paper, rubbish; Class B - gas, grease, and other liquid; and Class C - live electrical equipment.
- All employees should be familiar with the evacuation plan in case of fire. Employers may conduct drills to familiarize employees with safety procedures.
- Some of the major environmental concerns that closely effect the housing industry are indoor air pollution, conservation of natural resources, and crowded landfills.

Chapter 18

Tools and Equipment Used in Production

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

6A Identify tools and equipment used in construction of furnishings.

6B Demonstrate safe and skillful tool care and use.

6C Describe the impact of technology on tools, equipment, and construction.

Chapter Vocabulary

- automatic stitch machines
- balance wheel or machine-driving pulley
- bar tacker
- bed
- blind stitch machine
- buttonhole machine
- cabriole hammer
- cam
- chalk
- chalk line
- chisel
- cutting table
- decorative stitch machine
- domestic sewing machine
- dressmaker's pencil
- electronic or computerized sewing machines
- file
- floor roller
- framing square
- head
- ironing
- knee kicker
- looper
- oilstone
- pattern repeats
- pincers
- power stretcher
- press cloths
- pressing
- regulator
- ripping chisel
- seam iron
- seam ripper
- seam roller
- serger
- shears
- single-needle lock stitch machine
- single-thread chain stitch machine
- steel skewers
- stitch regulator
- straight stitch machines
- tack strip
- tailor's chalk
- trimmers
- trowel
- upholsterer's general purpose hammer
- upholsterer's sewing machine
- utility knife
- zigzag stitch machines

Read chapter sections for additional terms related to specific types of cutting tools, measuring tools, and pressing equipment.

EQUIPMENT USED IN THE FLOORING INDUSTRY

There are numerous materials used for flooring. The most popular include wood, vinyl flooring, and carpeting. All have similar yet different techniques for installation. Many of the tools and equipment required for installation are similar.

Equipment Used for Wood Flooring

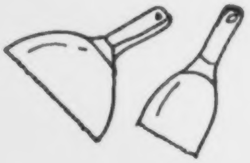
Wood has been used since ancient times for flooring. As discussed in previous chapters, the three most common kinds of wood flooring are strip flooring, random plank, and parquet flooring.

An interior design assistant or sales assistant should know various basic tools that are used to install most wooden floors. A tape measure is a thin tape used for measuring that is marked with increments of inches, feet, and yards, and may also include metric measures. This is an essential piece of equipment. A metal tape measure should be used because other types may stretch and be inaccurate. Many tape measures have a special finish that resists acids, oils, and alkalis.

A broom is an essential tool for all types of floor coverings. The subfloor (floor upon which the finished floor is laid) must be swept clean or vacuumed. The floor also should be level, dry, smooth, and sound. Any residue or debris left on the floor when the flooring is installed could interfere with the adhesive and the finished appearance of the floor.

Chalk lines and chalk are needed for accurate alignment of the wooden strips or squares. The ***chalk line*** is a device similar to a tape measure with locking and rewinding features. Instead of a tape, the container has a string or line that may be 50 feet or 100 feet long. The case can be filled with a nonclogging and noncaking powder made from limestone that is known as ***chalk***. This chalk is available in white and blue.

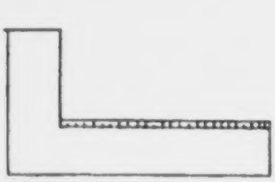
A ***trowel*** is a hand-held tool used to spread the adhesive for wood flooring and other types of flooring. Trowels are available with various sized and spaced notches. The choice of trowel used for a particular job should be based on the type of adhesive used.



Equipment Used for Resilient Flooring

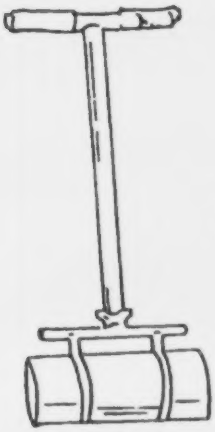
A broom is an important tool for resilient floors as well as wood flooring. It should be used to thoroughly sweep and clean the subfloor before resilient flooring is installed. If the floor is uneven or has other irregularities, a subfloor patching material may be used to help smooth the floor.

Once the flooring as been aligned, it should be pressed into the floor or wall intersection with a steel straightedge or ***framing square***.

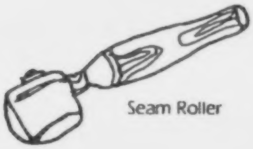


Excess flooring materials should be cut off with a utility knife.

A trowel also should be used to apply the adhesive for resilient flooring. A ***floor roller*** is a wide roller attached to a handle. A person can stand and push the roller. It is used after the flooring has been put on the subfloor to help spread the adhesive and flatten the flooring evenly to the subfloor. A ***seam roller*** is a hand-held narrow roller that is used to help spread adhesive and flatten seams. Seams require flattening because they tend to curl upward.



Floor Roller



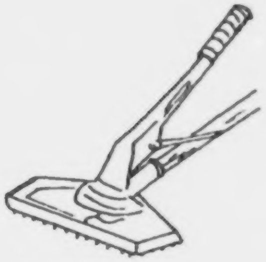
Seam Roller

Equipment Used for Carpeting

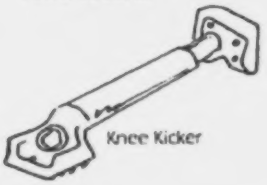
The carpet industry began in the United States around 1790 with the use of English inventions including Hargreave's spinning jenny, Cartwright's power loom, and Arkwright's water frame. These looms produced carpet runners (narrow strips of rug such as Oriental or Persian rugs) that were twenty-seven inches wide. These runners were sewn together to achieve the desired width. The power loom was invented in 1841, allowing broadloom carpets to be produced. The public preferred the wider width carpeting of the broadlooms. This lead to the twelve-foot wide carpet produced today. Various carpet weaves and their characteristics are discussed in Chapter Eight.

Special tools are required not only to manufacture carpeting, but also to install the product. The broom, tape measure, and chalk line are used to install carpet just as they are used to install other floor surfaces. A tack strip is used to keep the carpet on the floor. The tack strip is placed around the wall bases or the perimeter of the room or area where the carpet is to be installed. Special strips are available to be used for wood subfloors or concrete subfloors. Dual-purpose strips may be used on both subfloors. The ***tack strip*** is nailed into the subfloor and has tacks that protrude to hold the carpet.

Certain tools are used to attach the carpet onto the tack strip, such as the power stretcher and the knee kicker. The ***power stretcher*** is a manual piece of equipment that has a head with large teeth that bite into carpet. The power stretcher can expand to about twenty-three feet and stretch a large area of carpet at one time. The ***knee kicker*** is a tool with grippers on a flat head that is used to stretch short lengths of carpet. It can extend to about two feet. The person installing the carpet kicks it with the knee to stretch the carpet over the tack strip. There are special stretchers used for stairs and other hard-to-reach places. The carpet installer may use



Power Stretcher

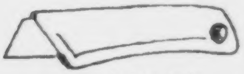


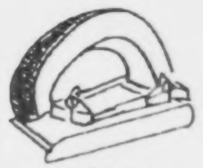
Knee Kicker

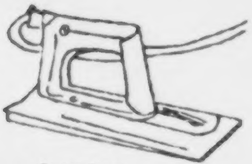
kneepads for added comfort since most carpet work requires the installer to be on his or her knees much of the time.

Carpet is cut from the backing side or underneath side. A ***utility knife*** is used to cut carpet. These knives are very sharp. The installer must be very careful to avoid accidentally cutting himself or herself. Special ***trimmers*** are available for cutting carpet close to walls and into corners. Special knives also are available for cutting carpet pads.

Carpet seams are joined together by a combination of materials. A special tape is placed on the back side of the carpet and an iron is used to activate the adhesive on the tape. The ***seam iron*** is a hand-held iron that is pressed along seams. It helps eliminate seam splitting, yarn raveling, and seam peaking. These irons are very hot; they should be used with great care.


Utility Knife


Trimmer

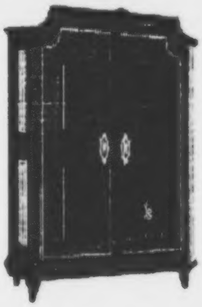

Seam Iron

◆ ***Essential Questions:*** ◆
Equipment Used In the Flooring Industry

1. Why is it important to use a metal tape measure when measuring for floor coverings?
2. What subfloor preparation is necessary prior to the installation of floor coverings?
3. What is the purpose of the tack strip in carpet installation?

TECHNIQUES AND TOOLS FOR FURNITURE CONSTRUCTION

A customer judging furniture quality considers several factors including cost, design, and sturdy construction. Good materials, quality tools and equipment, and high quality workmanship are costly. All are equally important in producing quality products. The two main categories of furnishings are case goods and upholstered goods. Both require similar tools and equipment for the construction of joints, leg ornamentation, and finishing.



Case Goods

A sharp, fine blade is required for cutting hardwoods. A ***file*** is a long metal tool with an abrasive surface used to shape wood. A ***chisel*** also may be used to shape wood. There are numerous widths of chisels.

A quality finish adds a polished clarity to furnishings. Poor finishes look flat, dull, and unnatural. A quality finish may involve from

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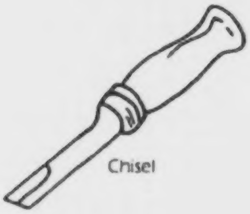
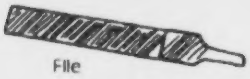
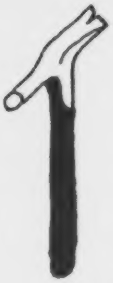
three to twenty-five steps including sanding, rubbing, and glazing. The steps involved in finishing a product are an important cost of the quality of furnishings. Proper sanding is the first step in producing a quality finish. Good quality sandpaper and cloths are needed to perform the finishing steps.





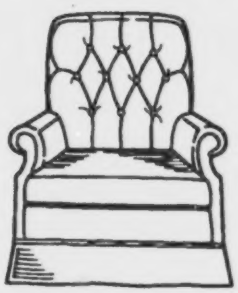
Upholstered Goods

An upholsterer's equipment may be used for both upholstery and case goods. An upholsterer does not require many tools for his basic work. Hammering is usually done in a confined area and with fragile wood. An ***upholsterer's general-purpose hammer*** has a long, narrow head with a face not much larger than half an inch wide. The other side of the hammer has a notch for withdrawing tacks.



A ***cabriole hammer*** has a narrower head with a face that is only about one-fourth an inch wide. It is used in hard-to-reach places and must be more carefully aimed.

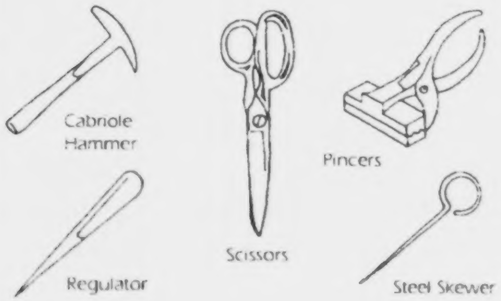
Scissors are needed for most materials, but knives also may be used. Heavy scissors provide steadiness that is helpful when cutting thick fabric. Scissors with an overall length of ten inches are usually satisfactory for most jobs. Knives are used more often when working with leather. Foam padding is cut best by a knife with a thin blade.



All cutting utensils should be sharp and in good condition. An ***oilstone***, an abrasive stone used for sharpening knives and other utensils, may be used. The stone should be kept clean and well covered.

A ***ripping chisel*** is a tool used for removing old fabrics, tacks, staples, and other materials. With the numerous changes in materials and methods used by upholsterers, the use for needles is not as great as it once was. Even though they are not used frequently, a good selection of needles is still needed. Curved needles are almost semicircular in shape. They can have a point at both ends or just at one end. Needles that have wider triangular points are used for leatherwork. Mattress needles range in length from four to sixteen inches and can have a round point at both ends or at one end.

A ***regulator*** is used to adjust various types of stuffing or padding materials. They may be six to twelve inches long and made from steel spikes. ***Steel skewers*** are pins used to temporarily hold materials together while arranging and adjusting before the final attachment. Upholsterer's ***pincers*** or web pincers are used for stretching or pulling fabric or webbing. They have a wider grip than do regular pliers to give a better pull and to lessen the chance of tearing the fabric.



◆ Essential Questions: ◆
Techniques and Tools for Furniture Construction

1. What are the two main categories of furnishings?
2. What factors should be considered when selecting furniture?
3. What is involved in the production of a quality finish to case goods?

TOOLS AND EQUIPMENT USED WITH FABRICS

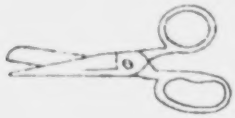
Fewer pieces of cutting, marking, measuring, and sewing equipment are used in residential or nonresidential furnishings construction than in clothing construction. The items listed in Figure 18.1 categorize various equipment used frequently with fabrics in the construction of furnishings.

Cutting Tools

Accuracy is important when cutting fabrics. Even edges, obvious notches, and true curves make sewing much simpler. A variety of cutting tools is available for this task. Scissors and shears are different tools. Scissors have shorter blades than shears and are used for tasks requiring a smaller, shorter tool. Shears have longer blades, usually at least six inches in length. Shears are used for cutting lengths of fabric or other materials.

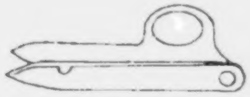
Scissors come in many varieties. Trimming or thread scissors, embroidery scissors, ripping scissors, and thread clips are used for small cutting tasks.

- ***Trimming scissors*** or thread scissors are usually four to six inches long.

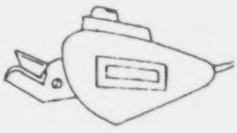


- ***Ripping scissors*** are about four inches long.
- ***Embroidery scissors*** are three to four inches long.

- ***Thread clips*** are small, easy-to-hold devices with short blades operated by squeezing. A spring mechanism makes them spring apart between clips. They are used for snipping threads during construction.



- ***Electric scissors*** are available both in electric and battery-operated models. They are especially useful for reducing the physical effort of cutting heavy fabrics or large quantities of fabric.



Hand Tools and Equipment

Cutting
- Cutting Shears
- Electric Cutting Shears
- Scissors
- Pinking Shears
- Seam Ripper
- Thread Clips
- Tweezers
- Razor Knife

Marking
- Pins
- Tailor's Chalk
- Dressmaker's Pencil

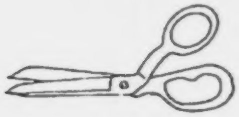
Measuring
- Measuring Stick
- Tape Measure
- Rulers
- Hem Gauge

Sewing
- Needles
- Pin and Needle Cushion
- Thimble
- Thread
- Pins

⇨ *Figure 18.1*

Shears of the appropriate size and type should be chosen for the cutting task. They have two cutting blades that are at least six inches long. They are designed to permit good control when cutting fabric.

- ***Straight-handle shears*** are used for general sewing tasks. They range from five to twelve inches in overall length. The most popular size is seven to eight inches long.
- ***Bent-handle shears*** are seven to nine inches long. They make cutting more accurate because they rest on the cutting surface during the cutting process.



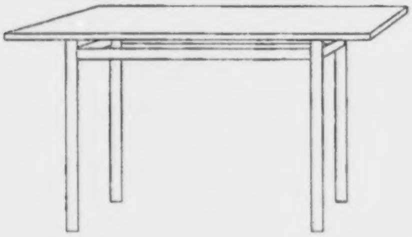
- ***Extra heavy shears*** are used to cut the heaviest of leathers. They are unsatisfactory for cutting regular fabrics.
- ***Heavyweight shears*** with serrated (sawlike) cutting edges cut almost any fabric from delicate sheers to heavy wool. They also cut most plastics and leather.

Other useful cutting tools are seam rippers and utility knives. A ***seam ripper*** is the size of a fountain pen and has a two-pronged tip with a sharp edge between. The longer prong is inserted under the stitch and the sharp edge cuts the thread. A razor blade should never be used as a substitute. Utility knives are useful for intricate cutting of leather and plastic goods.

Cutting Surfaces

Most drapery workrooms have a cutting table. It may be a table with a canvas top used for cutting draperies or sewing hems. It may be a specially designed table for cutting. A ***cutting table*** is a four-foot by eight-foot table with a smooth top. A tape measure along the edge aids in measuring fabrics. A roller may be mounted on one end of the table to hold a cylinder of fabric.

Most fabric is received in rolls. When fabric for a drapery order is ready for cutting,



the bulk of the fabric is placed on one end of the table, usually on a roller. Before measuring and cutting the fabric, it is important to understand what and how the fabric is to be used.

Before any cutting is done, the person cutting may be required to measure and check the entire roll of fabric. The cutting table is used for this also. An interior design assistant or sales assistant may be asked to measure the cuts and mark each with a pin or chalk to be sure that all cuts can be made from the roll. A person can also check for any flaws in the fabric at this point. After making sure that all lengths can be cut from the roll of fabric, the person should roll the fabric back onto the roller and begin cutting.

Measuring Tools

For draperies, upholstered pieces, and bedspreads, the fabric must fit well. To achieve an accurate fit, good measuring tools are essential. The key to achieving success in sewing is measuring often and accurately and always rechecking figures. The industrial sewing machine operator should use gauges and guides on the sewing machine and follow the markings on the fabric rather than measuring during sewing. However, the accuracy of the operator's work may be checked during inspection with various measuring tools.

Before accurate cutting or measuring can be done, the crosswise grain at the cut end of the fabric must be found. In order for draperies to hang straight and gracefully, bedspreads to lay correctly, and upholstery fabrics to fit correctly, the fabric must be cut on the true lengthwise (warp) and crosswise (weft) grains. The method used to find the crosswise grain and straighten the raw edge depends upon the type of fabric construction. Methods for finding the crosswise grain are described in Figure 18.2.

After the fabric has been cut on the crosswise grain, the cut raw edge of the fabric should be placed even with the crosswise penciled line on a canvas table or it may be placed even with the edge of a wooden table. The selvages should be even with the lengthwise guidelines on the tabletop. If the fabric is not straight, straighten it by pulling on the bias for the entire length of the fabric. If necessary, repeat this process until the fabric lies straight and flat. If this method does not work, press the fabric with a steam iron or dampen the fabric and stretch it until dry.

Once the fabric is straight on the table, the panel lengths may be cut. The length of one panel should be measured, starting at the straightened raw edge of the fabric. A metal tape measure, yardstick, or measuring guide on the table edge should be used. A cloth tape measure is not accurate because it can be stretched. When the desired length is measured, the selvage should be clipped. A person may cut across the fabric along the crosswise grain using the same method to find the crosswise grain as used to straighten the raw edge.

Measuring, cutting, and splitting should be continued until the correct number of panel lengths has been cut. If it is hard to distinguish between the right and wrong side of the fabric, a pin should be placed on the right side of each panel length immediately after it is cut.

Solid color fabrics do not cause too many problems. Some patterned fabrics have designs made by the repetition of a pattern or

Methods for Finding the Crosswise Grain

Plain Weaves — Clip the selvage. Pick up a weft thread with a pin and gently pull the thread across the width of the fabric. Cut along the line left by the thread. Linen, burlap, and satin fabrics can be straightened this way.

Yarn Designed Fabrics — Select a dominant weft thread and cut across the fabric width following the dominant thread.

Printed Fabrics — Use either of the above methods, depending upon the type of fabric. If the fabric is printed off grain, some workrooms may use a horizontal pattern print as a guide. With this method, cut across the material following a horizontal pattern on the fabric.

Figure 18.2

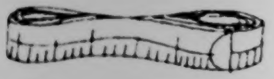
motif in a specific sequence or rhythm. These designs are called ***pattern repeats.*** Panel lengths must be cut so that pattern repeats will match when the widths are sewn together.

The length of a pattern repeat can be determined by measuring from a point on one design to the same point on the next design. The length of the pattern repeat should be divided into the length of one cut fabric length. If the amount divides evenly without a remainder, no extra fabric is needed to match patterns. If the amount does not divide evenly, extra fabric must be allowed to match patterns.

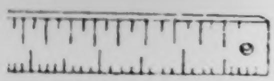
Suppose the length of the pattern repeat were ten inches. Using a ninety-inch cut length, there would be exactly nine repeats per length. No extra fabric would be required. However, suppose the length of the pattern repeat were eight inches. In this case, there would not be an even number of repeats. Allowing extra fabric to complete the next repeat would give twelve repeats. For each fabric length, twelve repeats, or ninety-six inches must be purchased. Pattern repeats are discussed in more detail in Chapter Thirteen.

Measuring tools useful for an interior design assistant or sales assistant working with fabrics include the following:

- ***Work tables*** are four-foot by eight-foot tables that are padded with a cotton batting and covered with canvas. The corners are marked at half-inch intervals for easy measuring.
- ***Tape measures*** are easier to use if each side is a different color. This makes it easy to tell if the tape measure is twisted when taking measurements.



- A ***measuring stick*** is a smooth wood or metal stick one yard or one meter long marked in inches or centimeters. It should be marked clearly on both sides.



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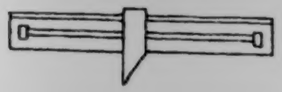
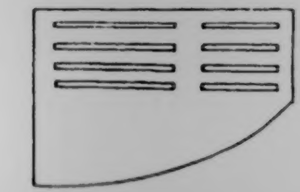
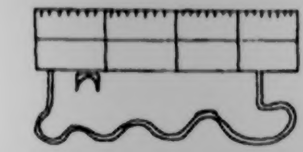
- ***Rulers*** in six, twelve, and eighteen-inch lengths also are useful.
- A **sewing gauge** is a metal or plastic ruler with a sliding marker that adjusts to a desired measurement. Adjustable sewing gauges aid in measuring hems, top stitching, and other detailed work.



- ***Hem gauges*** have a curved side and a straight side for measuring curved or straight hems.



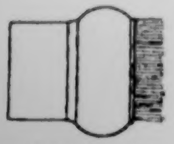
- A ***dressmaker's gauge*** has a shaped side for measuring scallops and a straight side for measuring pleats and tucks. It is usually made of plastic.



- A triangle is helpful in measuring and marking the true bias of a piece of fabric. It should have a 90° angle and two 45° angles.

Pattern markings guide the upholsterer by indicating where and how to place sewing details. A ***dressmaker's pencil*** is a form of chalk in a wood pencil with a brush eraser. It is used to mark most hard-surfaced fabrics.

Dressmaker's Pencil



Tailor's Chalk

Chalk is usually available in white and pastel colors. ***Tailor's chalk*** is a wedge of chalk that may be used in the holder/sharpener. It may be available in a wax form. Wax should be used only on wool because during pressing, the heat melts the wax and may leave a grease spot on thin or light-colored fabrics.

Thread may be used for tailor's tacks and basting. Glazed, mercerized cotton thread; clear, plastic thread; or polyester/cotton blend threads may be used for most fabrics. Silk thread is used for fine fabrics and for basting stitches that are not to be removed before pressing. White or light-colored threads should be used since dark-colored threads may bleed and leave a permanent stain on the fabric.

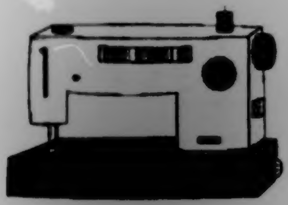
Pins are a fast but temporary method of marking. Pinning is not as accurate as other methods. Rust-proof, stainless steel, or brass dressmaker's silk pins are used for most fabrics. A smaller, finer size should be used for special or delicate fabrics. Pins with glass heads of various colors are especially easy to see and remove. When using pins, great care must be taken to avoid sewing over them with industrial machines—especially sergers. Sewing over pins can damage the machinery.

◆ Essential Questions: ◆ Tools and Equipment Used with Fabrics

1. What is the difference between scissors and shears?
2. What steps should be taken before cutting the fabric?
3. What are the warp and the weft grains in fabric?
4. How is the crosswise grain found in different types of fabrics?

SEWING EQUIPMENT

Sewing skills are not essential in all residential or nonresidential furnishings occupations, but a general understanding is needed. Persons employed as alteration and repair specialists in laundry and dry cleaning establishments or as seamstresses in linen rooms need skill in both hand and machine sewing. Custom drapery workers must be highly skilled in sewing in order to construct the variety of draperies desired by customers. Hand sewing skills and an ability to operate power-sewing equipment may help a person get a job in a linen or drapery workroom.



Domestic Sewing Equipment

The **domestic sewing machine** or a home sewing machine is used only occasionally in the construction of furnishings. However, knowing about the parts, operation, and care of domestic sewing machines can help a person learn about industrial sewing machines which are used more frequently in drapery and upholstery workrooms. There are three basic types of domestic sewing machines. They are grouped by the stitches they make.

- ***Straight stitch machines*** can only stitch forward or backward. A zigzag attachment can be added that will move the fabric from side to side.
- ***Zigzag stitch machines*** can perform side to side and straight stitches.
- ***Automatic stitch machines*** make straight, stretch, chain, zigzag, and decorative stitches using built-in disks or pattern cams. A **cam** is a metal disc or irregular shape mounted on a rotating shaft as part of sewing machine's internal mechanisms. It is used to produce zigzag and decorative stitch patterns.
- ***Electronic sewing machines***, or ***computerized sewing machines***, can complete the same tasks as automatic stitch machines. However, they are equipped with programmable (computer) electronics. The operator may enter any stitch variations desired into the machine's programmable memory, and the machine automatically stitches the programmed stitch variations. Programmable sewing machines are sometimes capable of creating monograms and more than one hundred stitch patterns automatically.

The appearance and location of specific parts can change depending on the make and model of the machine. Some machines have a drop-in type bobbin. In other machines, the bobbin is threaded through a bobbin case and inserted underneath the throat plate. A few machines automatically wind the bobbin without it being removed.

The slide plate may be at the front or side of the machine, or the machine may have a hinged bed extension that flips up to open. Some recent models convert from a flat bed to a free or open arm to sew concave or tubular items. Most machines have a stop-motion

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screw in the center of the hand wheel, but a few do not. The owner's manuals for different machines help identify their parts.

Once familiar with the basic parts of the machine, a person needs to learn how to adjust various parts and how each part affects stitching. The ***stitch regulator*** controls the length and the direction of the stitch. It may be a dial or a lever. It can be adjusted for long and short stitches and for backstitching. The stitch length also can be adjusted for different weights of fabric. For machine basting or sewing heavy fabrics, the stitch length may be adjusted to six to eight stitches per inch. For sewing medium weight fabrics, stitch length may be set at ten to fourteen stitches per inch. The smallest stitch length, sixteen stitches per inch, is used for very sheer fabrics.

The numbering system on the stitch regulator varies from machine to machine. The operating manual should be checked or test samples should be made to find out the stitches per inch at each setting. Backstitching is used to reinforce the ends of plain seams and for mending. Not all machines are equipped to backstitch.

Needle size also varies with the weight of the fabric. The needle should be installed so that the grooved side faces the direction from which the needle is threaded. Blunt or bent needles should be thrown away.

The thread from the bobbin locks with the upper thread to make a stitch. The machine makes a perfect interlocked stitch when the tensions are correctly adjusted. Figure 18.3 illustrates stitches with tensions too tight, too loose, and balanced.

Both the needle and thread tension and the bobbin tension should be the same. The upper tension regulator may be located on the front, back, or side of the machine. The directions in the manual for adjusting the tension should be followed. The illustration above shows how stitches look when the upper or lower tension is not properly adjusted and the tensions are in balance.

Incorrect threading often causes poor stitching. A person must learn how to thread a machine properly and wind the bobbin evenly. Even though different machines have different numbers of thread guides, all are designed to hold the thread in place. Needles on various sewing machines are threaded from different directions. It is important to remember that the thread always enters the needle from the side of the last thread guide.

The operator's manual is the best source of information since every machine is somewhat different. Regardless of the machine, it is important to remember to keep the machine in good condition by cleaning and oiling it regularly. The operator's manual gives suggestions on cleaning the machine and indicates every place it should be oiled.

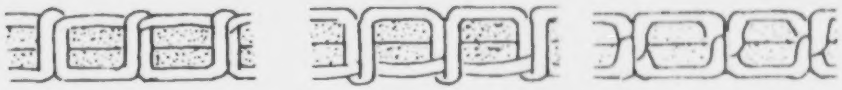
Before attempting to sew on any fabric, a person must learn how to use the machine, how to start stitching, how to control the speed of a machine, and how to stop smoothly.

Industrial Sewing Equipment

Some employment opportunities in the furnishings production industry include positions for sewing machine operators using fast, power-driven sewing machines. These machines are heavier and sew much faster than domestic machines.

- The industrial machine operates at almost 5,000 revolutions per minute while a home machine runs at about 1,500 revolutions per minute.
- The industrial machine is constructed to be safely operated continuously at high speeds. A domestic sewing machine operated at full speed all day, every day, would not hold up.
- Industrial machines require more care and maintenance than home machines.

Stitch Tension



Upper tension too tight or lower tension too loose.

Lower tension too tight or upper tension too loose.

Tension in balance.

Figure 18.3

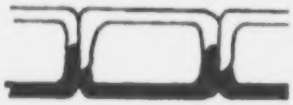
- The industrial machine is more dangerous than the home machine. Certain safety guards are required on the industrial machine to help prevent accidents.

CAUTION

THIS MACHINE MUST NOT BE OPERATED WITHOUT THE SAFETY GUARDS IN PLACE

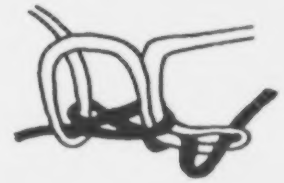
Fast, power-driven sewing machines are used in construction of curtains and draperies, table linens, bed linens, and home accessories. The two basic types of straight stitch industrial sewing machines are the lock stitch machine and the chain stitch machine. The most obvious difference between them is the stitches they make. Stitches formed by the lock stitch machine always look the same on both sides. Top stitches formed by the chain stitch machine look like those formed by the lock stitch machine, but bottom stitches form a chain.

Lock Stitch Machines - The ***single-needle lock stitch machine*** is similar to a home sewing machine. It makes a stitch that is the same on both sides and uses at least two threads–one through the needle and one through the bobbin. It always requires a bobbin and utilizes a hook to form its stitches. It is used mainly for short or nonstress seams because the stitch is less elastic than others are. A single-needle lock stitch machine can be used to stitch drapery panels together.



The zigzag machine also is a lock stitch machine. It is threaded almost like the single-needle lock stitch machine. The stitches are made with both forward and side-to-side motions. They can be adjusted in length or width. In sewing, the biggest difference between the single-needle lock stitch machine and the zigzag machine occurs in turning corners. To turn a corner, the needle of the zigzag machine must be at the highest rather than the lowest point. Variations of the zigzag stitch give a variety of decorative stitches. A zigzag machine can be used to apply decorative trim to curtains and home accessories.

Chain Stitch Machines - The ***single-thread chain stitch machine*** is used on longer seams where more flexibility or stretch is desired. It uses more thread, has no bobbin, and ravels out easily.



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Stitches on the top and bottom are never the same. This machine utilizes a ***looper***, a hook with an eye and thread channel in it, to form stitches. A chain stitch machine can make the hem in curtains easy to remove.

Some drapery shops use the overedge machine or serger to stitch drapery panels together, especially when fabrics ravel easily. The ***serger*** is used to bind edges of fabric together to prevent fraying. When serging is used to overedge and seam at the same time, more than one thread should be used. Another form of the serged seam finishes the edge and at the same time makes an additional row of stitching. This is usually referred to as a row of safety stitching. The additional seam is a plain seam that reinforces the overedging. The machine can have as many as six threads depending on the type of seam to be made.

Because threading the serger is a time-consuming process, tweezers and threading wires are usually necessary. The serging machine is not difficult to run, but it does require a skilled operator because of its high speed. The plies must be kept straight and even because most overedge machines have a trimming attachment which trims the edges evenly before they reach the needle. The serger often is used on knitted or stretch fabrics.

The ***blind stitch machine*** produces a stitch that is almost invisible on the outside of the fabric. Only in lightweight fabrics do the threads show at regular intervals on the right side. This machine is used primarily for hemming curtains and draperies.

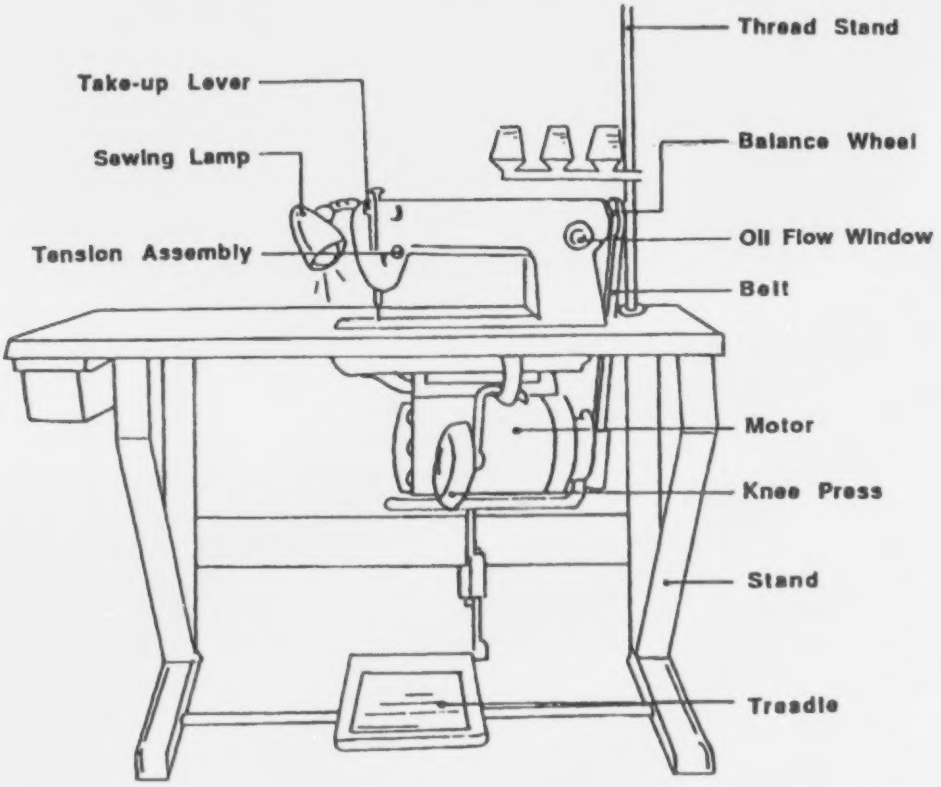
The blind stitch machine uses only one thread instead of going up and down through the cloth; the curved needle goes from side to side, making a stitch very similar to the handmade hem. The needle only goes partly through the fabric to which the hem is being attached. Since the thickness of fabrics varies, the machine must be adjusted for fabrics of different weights. Changing the position of the ridge over which the fabric passes makes this adjustment.

The number of stitches per inch made by the blind stitch machine can also be adjusted. The stitches per inch affect the appearance of the seam. Adjusting this also can be used to produce an overedge seam to cover the raw edge of a hem. To produce an overedge seam, the stitches are set very close together to give the effect of an overedge or serging machine. When this is done, the machine can be adjusted so that it skips the penetrating depth on every other stitch, but still catches the top ply. In general, stitches on heavier material are farther apart than stitches on lightweight fabrics.

As with domestic sewing machines, the ***head*** is the main part of the machine. The ***bed*** is the flat base of the machine that contains the bobbin and bobbin case. An industrial machine is illustrated in Figure 18.4. The following parts of an industrial sewing machine perform specific tasks:

- ***table*** - The table supports the sewing machine.
- ***stand*** - The stand consists of legs that support the table.
- ***motor*** - The motor is the power unit that drives the machine. The motor continuously turns and has a built-in clutch and a built-in brake.
- ***treadle*** - The treadle is a platform on which the operator's feet are placed. The treadle controls the motion of the machine.
- ***knee press*** - A knee press is used to raise and lower the presser foot as the knee is pressed against it and released. The knee press is mounted under the table.
- ***balance wheel*** or ***machine-driving pulley*** - The wheel on the right side of the machine's head is called the ***balance wheel*** or a ***machine-driving pulley***. The wheel may be used by hand to position the needle up or down while the machine is stopped. The wheel receives the driving

An Industrial Sewing Machine



⇨ *Figure 18.4*

force from the belt while the machine is in operation.

- ***belt*** - A belt rotates around the balance wheel and drives the wheel. The belt is attached to the drive of the motor that is located under the sewing machine table. The belt transmits power from the motor to the machine-driving pulley.
- ***thread stand*** - The thread stand is positioned above the machine head to the right side of the machine. It holds one or more cones of thread.
- ***sewing lamp*** - A sewing lamp is a light that is usually attached to the back left side of the sewing machine head. It directs light on the needle area so that work can easily be seen. The sewing lamp can be adjusted and positioned as needed.

Other Machines - An ***upholsterer's sewing machine*** allows for making welt cords and special seams. Drapery pleats are held in place with bar tacks or small satin stitches made by an automatic ***bar tacker***. The bar tacker machine sews various reinforcing stitches. It is used to make the tacks on pinch-pleated draperies.

The ***buttonhole machine*** can be used in constructing detachable linings for draperies. It can be an automatic lock stitch machine or a chain stitch machine. It is equipped to sew, cut, and trim the threads on buttonholes. ***Decorative stitch machines*** can be used for embroidery, edge scalloping, decorative stitching on curtains and home accessories, or monogramming on table and bed linens or pillows. Cams are used to form the sewing designs.

◆ **Essential Questions:** ◆
Sewing Equipment

1. What are the differences between domestic sewing equipment and industrial sewing equipment?
2. Why is an understanding of basic skills involved in the construction of upholstered and other fabric furnishings important for those working in housing and furnishings occupations?
3. How are sergers used in the construction of furnishings?

PRESSING EQUIPMENT AND TECHNIQUES

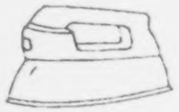
Standards for well-pressed upholstered or other fabric furnishings are very similar to standards for a well-pressed garment. Skillful pressing is essential to the appearance of both. To meet the standards for a well-pressed item, a person must know how to press various fabrics.

Before pressing any fabric, a person must first determine the pressing requirements of the fabric. The amount of heat, moisture, and pressure that should be applied varies with the type of fabric. The requirements vary with the fiber content and construction of the fabric. The fabric label or hang tag should be checked for information about fiber content and other special instructions. It is a good idea to pretest the heat, moisture, and pressure recommendations on a scrap of the fabric before pressing the item being constructed.

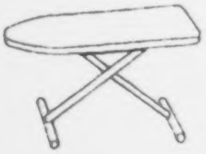
A variety of pressing equipment is available. Knowing the purpose of each piece of equipment helps a person decide which pieces to use for a specific pressing task. Equipment, such as the iron and ironing board, are basic tools for most construction. Other items, such as the needle board, seam board, and clapper, are used for tailoring or working on special fabrics, such as corduroy, velvet, and fur like materials. Pressing equipment, such as the industrial iron, steam press, puff iron, and form finisher, is used in highly specialized operations, such as laundries, dry cleaners, and upholstery manufacturers.

Common pressing equipment includes the following:

- An ***iron*** is a heavy, flat-bottomed electric appliance for pressing or ironing. It may be designed for dry pressing only; for combination steam and dry pressing; for dry, steam, and spray pressing; or for steam pressing only. They are available in various sizes and weights.



- Pressing boards include the ironing board, press table, edge and point presser, clapper, and needle board.
    - The ***ironing board*** is a padded board with adjustable legs used as a surface for ironing and pressing. It can be adjusted for use while sitting or standing.



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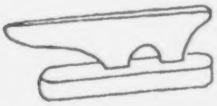
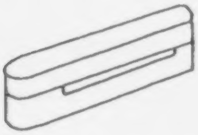
- A ***press table*** is a large padded table that is helpful for many pressing tasks. It is very important to keep the cover of the press table clean to avoid soiling the fabric being pressed.
- An ***edge and point presser*** is a wooden tool with a straight, pointed surface and block base used for pressing corners, points, and straight seams.



- A ***clapper*** is a rounded wooden block used to pound sharp creases in heavy fabric.



- A ***needle board*** has a flexible backboard covered with needle-like wires. It is very useful for pressing napped fabrics, such as corduroy and velvet.

Press cloths are used for general pressing. The pressing cloth is placed between the iron and the fabric. Press cloths may be made of muslin, cheesecloth, organdy, or a chemically treated cloth. A cotton cloth that reverses to wool also may be used for general pressing. Press cloths protect fabric from becoming too hot, scorching, or developing a shine.

Besides the larger pieces of pressing equipment, several smaller pressing aids are needed for specific jobs. Cotton balls and cleaning fluids or powders should be kept close for spot cleaning. A sponge and bowl of water aids in adding extra moisture where needed. A sponge is useful for cleaning up spills.

Brown paper strips can be placed under folds of darts or edges of pleats to avoid pressing ridges into the right side of the fabric. A hard bristle brush can be used for removing lint, and a soft toothbrush can be used to correct slight overpressing and to remove stray threads.

Skillful pressing contributes to the professional appearance of upholstered and other fabric furnishings just as it does to the appearance of garments. Pressing is essential throughout the construction of upholstered and other fabric furnishings. Pressing may be necessary to remove wrinkles in fabric before items can be cut. During actual construction, pressing helps block a hem or shape details, such as pleats. It is an important part of seam construction. Each construction line should be pressed before it is crossed with another seam. Guidelines for pressing fabric are shown in Figure 18.5.

Pressing techniques include dry pressing, wet pressing, and steam pressing.

- For dry pressing, the item is pressed on the wrong side without a cloth. Light weight fabrics of rayon, cotton, and silk are usually dry pressed.
- Wet pressing uses the technique of placing a damp press cloth over the fabric and then pressing with a dry iron.
- Steam pressing is done with a steam iron with or without a press cloth.

The pressing techniques used in the construction of furnishings are generally simpler than those used in constructing clothing. ***Pressing*** is lifting and lowering of an iron that puts downward pressure directly on the fabric. It is usually done with moisture or steam and a pressing cloth. ***Ironing*** involves a sliding motion of the iron as it moves back and forth over a dampened fabric in long strokes to smooth out wrinkles. Ironing puts a strain on the fabric and can easily stretch or pull the fabric off grain.

Guidelines for Pressing Fabric

- ✔ Test the temperature of the iron on a scrap of fabric first.
- ✔ Press on the wrong side of the fabric as much as possible to prevent shine.
- ✔ Where top pressing is necessary, use a press cloth to prevent damage to the fabric.
- ✔ Press with the grain of the fabric to prevent stretching the fabric.
- ✔ Press with an up and down motion.
- ✔ During construction, press each seam before crossing it with another seam.
- ✔ Use the point of the iron for pressing seams open.
- ✔ Press curved areas over a tailor's ham or another curved surface.
- ✔ Avoid pressing over basting stitches whenever possible
- ✔ Avoid pressing over pins to prevent marking the fabric or scratching the iron.
- ✔ Avoid too much moisture.

⇨ ***Figure 18.5***

Seams should be pressed directionally along the line of stitching. To prevent their imprint from showing on the right side of the item, place the seam over a seam board and press with the point of the iron only. Seams can be pressed open or flat depending upon their location on the item. Gatherings or shirrings should be held firmly with one hand at the stitching line as the point of the iron is used to press them. Fabric should be pressed from the wrong side when possible. Heat should be reduced to prevent scorching the fabric. Gathered seam allowances should be pressed flat before stitching.

Zippers should be pressed according to the shape of the area. The zipper should be placed right side down over a press pad or tailor's ham. A press cloth and limited moisture should be used to prevent puckers. A person should not press directly on zipper teeth, hooks and eyes, or snaps. This could damage the fasteners or scratch the iron.

Final pressing should include touch-ups if a thorough pressing was done during construction. Final pressing should remove wrinkles received from handling. The amount of final pressing required depends upon the quality of construction pressing and the care given to the item during construction.

After a hem has been turned and pinned or basted along the fold line, it may need to be blocked (reshaped). The turned hem should be spread on the pressing surface and pressed from the wrong side to crease the fold line. If pins have been used to hold the hem in place, the fold line between the pins should be creased, pins should be removed, and the areas where the pins were located should be pressed. The fullness at the top of the hem may be reduced by steam pressing in the direction of the grain from the line to the cut edge.

The majority of final pressing is done on the outside of the item. The item may need overall pressing or a touch-up, depending on the fabric. Observe the precautions for using moisture, pressure, and heat during final pressing. Use a press cloth if needed. Be sure to press on grain.

◆ Essential Questions: ◆

Pressing Equipment and Techniques

1. What should be done before pressing any fabric?
2. What is the purpose of a press cloth?
3. What are the guidelines for pressing fabric?

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Chapter Highlights

- Chalk lines and chalk are needed for accurate alignment of wooden strips or squares for wood flooring and vinyl flooring.
- Carpet seams are joined together by a combination of materials. A special tape that is placed on the back side of the carpet and an iron is used to activate the adhesive on the tape.
- Shears of the appropriate size and type should be chosen for the cutting task.
- Before accurate cutting or measuring can be done, the crosswise grain at the cut end of the fabric must be found.
- Some patterned fabrics have designs made by the repetition of a pattern or motif in a specific sequence or rhythm called pattern repeats.
- When using pins to mark fabrics, great care must be taken to avoid sewing over them with industrial machines because this can damage the machinery.
- Sewing skills are not essential in all residential or nonresidential furnishings occupations, but a general understanding is needed.
- Skillful pressing contributes to the professional appearance of upholstered and other fabric furnishings just as it does to the appearance of garments.
- Pressing is lifting and lowering of an iron that puts downward pressure directly on the fabric. Ironing involves a sliding motion of the iron as it moves back and forth over a dampended fabric in long strokes to smooth out wrinkles.

Chapter 19

The Evolution of Floral Design

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

11C Describe the benefits of telecommunications in the floral industry.
11D Identify trends in floriculture.
11E Demonstrate the use of artificial flowers and foliage in the industry.

Chapter Vocabulary

ascending colors
Color Association of the United States (CAUS)
Color Marketing Group (CMG)
Empire style
established colors
Florafax International, Inc.
Florists' Transworld Delivery Association (FTD)
forecast colors
French Baroque style
ikebana
line mass style
line design
mechanization
Neoclassic style
nosegay
permanent flowers
Rococo style
samurai
Society of American Florists (SAF)
TELEFLORA, Inc.
tertiary
tokonoma
traditional design
trend

The floral industry has experienced dramatic changes since it began. It has become more than the growing and selling of flowers, which is now referred to as "floriculture." The industry at one time emphasized flowers for funerals and weddings. It has now expanded to include flowers for numerous holidays, special occasions, and everyday use.

There is a worldwide movement toward mechanization. ***Mechanization*** in the floral industry means that necessary operations are done with machinery, rather than by hand. The growing of many crops now and in the future will require less and less labor. Mechanization combined with computers is the basis for the future of the floral industry.

Traditional design can be defined in several ways. It can be defined as an established pattern. The term also alludes to patterns of behavior carried over from generation to generation. Interior designers may define traditional as a style of a particular time period in the past. An artist may describe traditional as accepted techniques, subject matter, and practices. Traditional floral designs typically refer to the triangular and fan-shaped arrangement forms.

A ***trend*** is a current style of design. Most trends are based on a traditional style or design. Understanding traditional values, styles, and designs is necessary in order to understand current trends and the direction of the industry. A person must understand where the industry has been to understand where it is going.

HISTORY

Flowers have played a major role in our society since the earliest known civilizations. Not only have flowers been a way to express feelings and emotions, but also they are a major decorative element in our homes, offices, churches, and for personal adornment.

Flowers and foliage are extremely important on special occasions to express feelings of love, sorrow, friendship, and to celebrate holidays through decorations.

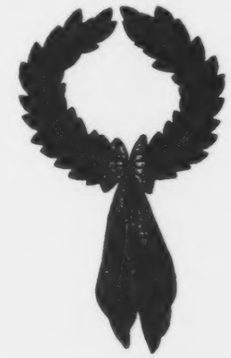
To understand why flowers are such an important part of our society, we must look back at these early civilizations. This information will help to explain how the floral designs looked during each period in history. This could be helpful to a floral designer if someone is trying to recreate a design from a certain period or design style.

The floral designs as we know them today are a combination of two styles, Oriental and European. Characteristics of each type of design are apparent. Other characteristics have been added including depth, simplicity, and originality. These characteristics make American flower arrangements different from arrangements found in other countries.

Classical Periods

Egyptian Period (2800 - 28 BC). The history of floriculture dates back to 2800 BC with one of the oldest known civilizations, the Egyptian civilization. Flowers were important to the Egyptian people. They were a people who enjoyed mainly bright primary-colored (red, yellow and blue) flowers in their designs. The Egyptians were best known for creating simple designs. A normal arrangement used as a centerpiece for the food table would be a low basket filled with fruits and vegetables. The Egyptians were the first to introduce garlands to be worn on the head at special events. They made these of lotus petals, buds, and leaves.

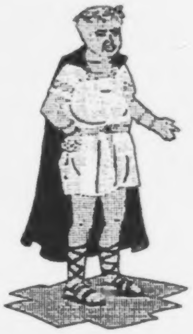
Greek Period (600 - 146 BC). During the end of the Egyptian period, the Greek civilization was thriving. Instead of arranging flowers in vases, the Greeks would throw flowers on the ground during parades and festivals. They also made garlands and wreaths from the flowers. These wreaths were to be worn on their heads or carried. Every person would wear wreaths during special holidays or occasions. They would even place wreaths on the heads of statues of gods, goddesses, and on the heads of heroes, athletes, and statesman. Garlands of flowers were also used to decorate funeral graves.



Because flowers were so special to the Greek people, they were the first to grow potted plants indoors. The Greeks introduced the cornucopia or "horn of plenty" which has become the symbol for abundance. They would fill the horn of plenty with flowers, fruits, and vegetables. Instead of laying the cornucopia on its side as is seen today, they would stand it in the upright position. This symbol for abundance has become a standard decoration during autumn and for Thanksgiving.

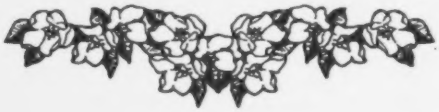
The floral arrangements of the Greeks were based on traditions and rituals. The only factors that were considered when designing an arrangement were flower types, smell of the flowers, and symbolism of each flower. The colors of the flowers did not matter to the Greeks. The Greek style floral design can be described as having gracefulness and simplicity.

Roman Period (28 BC - AD 325). The Roman civilization was greatly influenced by the Greeks. The Romans contributed very few new ideas. They mainly continued the customs of the Greeks but made the designs more elaborate. The Romans continued to wear wreaths on their heads. These wreath designs were more ornate and were created to have a high crown coming to a point in the center of the forehead. Garlands were much fancier with the top of the garland being the widest part and getting slimmer toward the end. One new idea that became a Roman tradition was the blossom-filled scarf. These scarves filled with flowers were offered at the church altar as a part of Roman religious ceremonies.



Unlike the Greeks, the Romans did arrange flowers in containers. Typical Roman floral designs would be arranged in baskets that were very high in the back and very short in the front. They would use flowers placed lowly between taller branching plant materials. The flowers and branches were spaced carefully so that all flowers could be seen easily.

Byzantine Period (AD 320 - 600). Byzantine art kept the traditions of the Roman civilization alive after its fall. The Byzantine people continued to use the Greek and Roman floral styles. They did, however, change the way the garland was made. It was created using several narrow bands of fruit or flowers with greenery between each piece and the bands were twisted together.



The major contribution of the Byzantine culture on the floral industry, was the introduction of symmetrical tree forms. These trees were constructed by filling containers full of foliage to resemble cone shaped trees and then decorated with clusters of fruit or flowers. Once the trees were finished, they were placed in baskets or large urns.

Byzantine floral arrangements use colors which are next to each other on the color wheel also known as analogous color harmonies. One of the most common of these schemes is green, blue-green, blue, and violet combined with accents of each of their complements (red, red-orange, orange, and yellow). A typical Byzantine arrangement was created in a container with dark and light greenery mixed with small lilies, star-shaped flowers and bunches of grapes. Vases that were used for these Byzantine style arrangements were dressy and most often had almost pointed bases.

Middle Ages (AD 476 - 1400). There is very little known about the floral designs of this time in history. This style came after the fall of the Roman Empire and before the revival of classical art forms of the Renaissance. Much of what has been discovered about this style was found in the artwork of Persian paintings, rugs, and tapestries of the 1300's. This art showed flowers arranged in vases using monochromatic (one color), analogous (colors next to each other on the color wheel), and triadic (colors located equally apart on the color wheel) color harmonies. The flowers were placed in symmetrical groups in flat Chinese containers. Much of the artwork researched showed that the people of the Middle Ages were influenced greatly by the Chinese.

European Periods

Renaissance Period (AD 1400 - 1600). The Renaissance is the rebirth of the classical styles of Greece and Rome. It brought a rebirth to the floral arts. The typical arrangement during the Renaissance was pyramidal in form, very large in size, tall, and symmetrically arranged. Flowers were placed so as to be airy and not crowded. Flower stems were left long so that they were about twice the height of the container. The walls of the homes and buildings during this time were white plaster. Bright triadic colors of flowers were used to create a great deal of contrast between the architecture and the arrangement.

A typical Renaissance floral design would have been arranged in a red Venetian glass vase, a wide-mouthed marble urn, or a pedestal vase of metal. The arrangement was then created from light, airy flowers into a tight, formal bouquet. Many of the arrangements made today are patterned after the Renaissance designs, such as the Christmas wreaths of flowers, fruits, and cones.

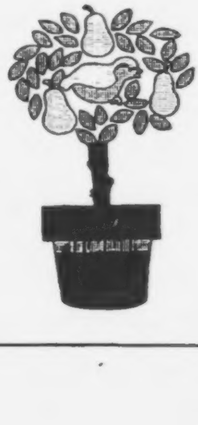
Baroque and Flemish Style Period (AD 1600 - 1775). Michelangelo, an Italian artist, greatly influenced the change from the classical Renaissance style to the fancier and more elaborate Baroque period. In fact, painters from Holland and Belgium used this style for the floral arrangements that they painted in their pictures.

In the beginning of the Baroque period, floral arrangements were balanced symmetrically and were mostly oval in shape. Later in the Baroque period, arrangements were designed with asymmetrical curves in the shape of an "S" or a crescent "C." William Hogarth, an English painter, created the "S" curved arrangements often called the Hogarthian curve named after him. William Hogarth described his style as the "line of beauty." This style of floral arrangement is still popular today because of the gently, flowing curves it creates.

In Flemish style arrangements, the flowers were not placed as far apart as in the Baroque style. The arrangements were much tighter but were better proportioned. A favorite flower used was the tulip, and they were combined with other flower types.

French Styles. There are four French periods that have influenced the art of floral design: **French Baroque** (Louis XIV, 1643 - 1700), **Rococo** (Louis XV, 1730 - 1760), **Neoclassic** (Louis XVI, 1760 - 1789), and **Empire** (Napoleon, 1804 - 1820). Each period was affected by the ruler of the time. Although these styles began in France, they were used by other European countries and England and became the basic design for the American arrangements of the time.

The ***French Baroque style*** of floral design was created after Baroque art. However, there are certain characters that make it strictly French. During the French Baroque period, arrangements had feminine appeal. The topiary was developed during this style and is popular today. The topiary tree or ball began in the formal French gardens.



Madam Pompadour, who was a friend of King Louis XV, influenced the ***Rococo style***. Arrangement designs became more formal and graceful. They had even more feminine appeal. These arrangements were shaped in the crescent "C" curve or the Hogarthian "S" curve.

The ***Neoclassic style***, which began during the reign of King Louis XVI, continued the movement to feminine designs. Queen Marie Antionette liked soft, cool colors accented with gold. She preferred simple, but elegant containers. This style was a revival of the classical forms of the Greeks and Romans.

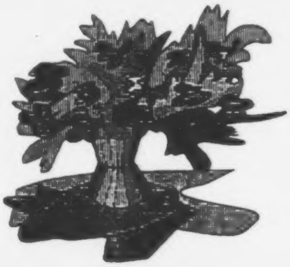
The ***Empire style*** was the period in history in which Napoleon Bonaparte was the ruler of France. Napoleon liked masculine military themes. These arrangements were heavy, large in size, and always contained some symbol that was identified with Napoleon, like the letter "N," the bee, or the star.

English Georgian Period (1714 - 1760). This style of floral design is called the Georgian period for the English Kings, George I and George II. At this time, the English were trading goods with other Europeans and the Japanese. Through trade made with Japan, the English were exposed to new ideas. Arrangements with flowers crammed into wide-mouthed containers in the Baroque style with no thought to design were gradually changed due to the Japanese influence. The Japanese style was used in Georgian arrangements by the symmetrical shape and usually triangle. The bending of these two styles is the basis for American floral design today.

The ***nosegay***, or *hand-held bouquet*, was an important design created during the Georgian period. Because ladies at this time in history wore tightly fitting undergarments that cinched their waistline, it was necessary for the women to keep smelling salts handy to revive them if they fainted. The nosegay that was bunched with flowers and wrapped in a lace handkerchief hid a bottle of the smelling salts.

Victorian Period (1820 - 1901). No other period in history considered flowers as fashionable as did the Victorian period under the rule of Queen Victoria of England. Floral designs at this time were large masses of flowers crammed into containers to make a compact design. Arrangements at this time were poorly proportioned and were created from many different colored flowers and flower types that caused the arrangements to look spotted with color and unplanned..

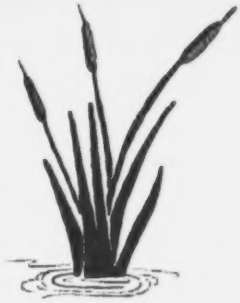
Close to the end of this period, people began to realize that the floral designs lacked artistic taste, style, and design elements and principles. They realized that the floral designers needed basic design skills to create really nice arrangements that were proportioned, balanced, and having unity. Then, skilled designers taught the art of floral arranging. This established the profession of floral art and design.



American Periods

Early American (1620 - 1720). The colonists brought with them to America the style influences of the Renaissance period. The colonists, however, had little time to worry about arranging flowers. They had to focus on planting gardens to provide food and necessary herbs for medicine.

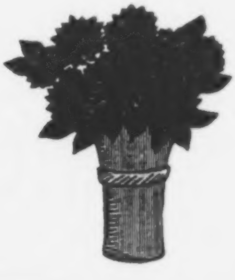
After the colonists had developed their communities and their needs were met, then they had time to focus on beautifying their homes and yards. These people did not have fancy vases or containers in which to put flowers. They would use pitchers, kettles, and serving dishes to display flowers. The early American settlers really did not arrange the flowers. They were just picked and bunched into their container. They were very simple. The colonists also would use dried materials, like cattails, grasses, and wheat.



Colonial Williamsburg (1724 - 1780). The colonists were much more sophisticated and cultured by the time that Williamsburg became the capital of the Virginia colonies. Through trading with England, Europe, and Asia, the artistic styles from these areas began to be used in New World art. The colonists particularly liked the styles of French Rococo and English Georgian. The colonist arrangements were influenced through tapestry, Chinese vases and figures, and European paintings.

The floral designs were a massed bouquet but allowed plenty of space between flowers to create a more casual and open arrangement. The preferred shapes of the Williamsburg colonists included the fan-shaped design, rectangular-shaped design, and most commonly used is the round or radial design. Today, the round arrangement is defined as the American style of floral design. The Colonial Williamsburg style of floral designs is the choice when making an arrangement for a southern colonial home.

American Federal (1780 - 1820). The American Federal period chose its style of floral art from French Neoclassical and French Empire. As Americans were gaining their freedom and independence, they wanted to



get away from the traditions of the English and create their own unique style of design. The colonists liked the delicate, feminine lines of the French style. They felt the beauty of each flower should be seen and not covered up by massing flowers too tightly. These arrangements were taller than they were wide so they had more of a vertical dominance. Gradually the Neoclassical and Empire influence lessened and the Victorian style became the look in the floral arrangements.

Asian Styles

While Europe and America were focusing on massed arrangements, the Asians (in particular the Chinese), were creating a totally different look. Asymmetrical balance and proportion was first seen in Chinese designs. The Japanese adopted the Chinese style of floral arranging and developed it into a refined form of art. The Japanese floral art incorporates a type of simplicity that has become known as ***line design***. Modern arrangements use the simple line of the Japanese art and massed style of European designs.

Chinese Style. Buddhist priests of India were the first to use plant materials and flowers as part of their religious ceremonies. When the religion was brought to China, the Chinese carried on the tradition of decorating the altars of Buddhist temples. The Chinese favored brightly colored flowers. Their floral creations were usually symmetrical and large. They were created with only a few flowers and foliage placed around a centered branch.

Japanese Style. In the sixth century BC, the Japanese adopted Buddhism, the Chinese language, and Chinese writing techniques. The Japanese were impressed by the skillful floral arrangements of the Chinese Buddhist priests.

Japanese arrangements are known for their line designs. These line designs mainly include the use of branches, twigs, and few flowers. These designs are based on three lines or levels representing heaven, man, and earth. Heaven is the primary level represented by the tallest and most vertical line of the design. The ***tertiary*** or *lowest level* is a horizontal line representing earth. The secondary level symbolizes man. It is located between the vertical and horizontal lines of heaven and earth and is usually placed at about a 25-degree angle from the line of heaven.

Japanese designs have many variations representing different messages or prayers as described in Figure 19.1. They still conform to the three lines regardless of materials or number of pieces used. The arrangements may vary from formal to informal or from classical to freestyle.

Ikebana is the Japanese style of arranging flowers in decorative, rhythmic designs. This word means, "giving life to flowers." The Heian period (794 - 1192) brought about the practice of arranging flowers in a vase for reasons other than as offerings. The aristocratic society turned flower arranging into a hobby during this period. The ***samurai*** (members of a military class) changed the Japanese society dramatically during the Kamakura period between 1192 and 1333. The samurai took the power of the government away from the aristocrats during this time, forcing the Japanese

Symbolism of Japanese Designs

- Pine represents the strong and sturdy traits of human character.
- Bamboo symbolizes faithfulness.
- Peach blossoms represent the feminine qualities of gentleness and mildness considered factors that contribute to a happy marriage.
- Small dried leaves in fall arrangements forecast the approach of winter.
- Pink wild carnations are an emblem of love and fidelity.
- Iris leaves are used to represent masculine traits of boldness and power.

➡ *Figure 19.1*

to worship in their homes. The ***tokonoma*** was a small, sacred place or altar created about this time that became part of the homes of the Japanese. Flowers were then placed on the tokonoma as an offering to Buddha. During the sixteenth century, the people became unsatisfied with merely placing flowers in a vase and decided to give meaning to the arrangements forming the basis of what is known as ikebana.

◆ Essential Questions: ◆ History

1. How were flowers used in the Classical Periods?
2. How was floral art used in the European Periods?
3. What are characteristics of floral design in the American Periods?
4. How do Asian styles of floral design differ from other styles?

TRENDS IN THE FLORAL INDUSTRY

Florists today and those in the future must diversify in order to stay in business. Factors, such as the type of store, location, size of store, and type of clientele, should be considered. Some florists may sell the usual merchandise and others may become very diversified and carry a variety of accessories.

Various types of pottery could be offered for sale in a floral shop since many arrangements must be in containers. Customers often purchase decorative containers for birthday, anniversary, and special occasion gifts. Decorative pottery also is used for everyday use in the home and office.

Contemporary American Trends

From the end of the Colonial Williamsburg period until the 1920s, the Victorian style of arranging flowers was the main type of design used. American florists did add more rhythm, more pleasing color combinations, and a more natural appearance to the designs than seen in earlier Victorian arrangements. Today, American floral designs

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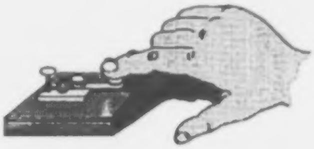
are a mixture of the Japanese and European designs. This means that American designers combine the line style and mass style into one arrangement called the ***line mass style.***

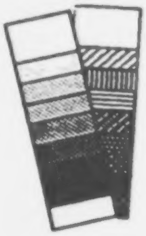
In the late nineteenth century with the start of the floral wire service, the floral industry experienced new growth across the country. Wiring flowers made it possible for a florist to fill an order for an arrangement that was actually sold by a florist in another part of the country. A catalogue was put out by the wire service and designers were selected to determine the variety of arrangements that were to be offered in the wire service catalogue. Florists who wished to participate in the wire service had to prove that they were able to reproduce the arrangements like the pictures of the chosen styles. Therefore, the designs had to be fairly easy to recreate. The arrangements that were selected by the various floral designers helped to establish current trends in the American floral industry.



It is important to understand that there is no licensing in most states to become a floral designer. Because of this, there is no way to control the end product being made by a florist. Therefore, it is always best to ask for recommendations as to which florist should be used in a particular area. Of course, this is not always possible when wiring flowers.

Color Trends

The ***Color Marketing Group (CMG)*** is an international association of color professionals based in Arlington, Virginia. The CMG issues a color forecast each year. The forecast is developed by members in various workshops and outlines expected commercial and consumer uses of various colors. By paying dues, individuals or groups can join CMG. Each member receives color chips that are designed for use as guides for creating designs. Members include architects, product designers, interior designers, and floral designers. The color chips are to be used as tools to aid the designers.



The CMG divides colors into three separate categories called the forecast colors, ascending colors, and established colors. The ***forecast colors*** are the new colors or those that have not been seen yet. The ***ascending colors*** are those that are visible and seen quite often and still considered trendy. The ***established colors*** are those that are basic to the design industry including silver, blue, red, taupe, and platinum. The established colors are the basic colors used in many manufacturers' lines.

The ***Color Association of the United States (CAUS)*** is another color forecasting association. This association is used primarily by leading home furnishings and accessory manufacturers. Its predictions and structure are similar to the CMG. This group also benefits the retail florist.

Artificial Flowers and Foliage

Many customers would like to have fresh flowers in their homes yet cannot afford to purchase them every week. Others may have difficulty growing or maintaining live plants in their homes due to work schedules, lifestyles, or patience. Still others prefer to use ***permanent flowers*** which include silk flowers and those made of plastic or polyethylene. Permanent materials include the flowers by the stem as well as foliage and foliage plants used for permanent decoration. Permanent flowers make it possible for people to find colors to match their decor. A permanent arrangement allows a person to have flowers and plants every day without the time and maintenance required for fresh flowers and live plants.

The original quality of permanent materials was not very good. The demand for this material has increased and forced manufacturers to improve the quality of their products. Customers want realistic, natural-looking silk flowers that provide the feeling of fresh flowers all year round. Many permanent flowers and foliage today look quite real and have true colors. Silk flowers and foliage are the most popular materials. Some plastic flowers and foliage are still available. Mixed silk and dried arrangements are popular because the combination of the two makes the silk flowers look more natural.

Permanent materials also are used effectively outside the home. Hospitals, offices, lobbies, banks, and churches have begun to use them quite frequently. Many indoor locations have poor growing conditions for live plants. Sometimes no one is available to care for plants, which makes permanent arrangements and plants the logical choice.

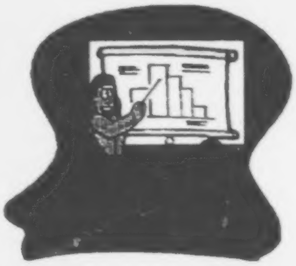
Permanent flowers allow the retail florist to make fall and Christmas arrangements months ahead of time during slow seasons. Permanent arrangements can be created and covered with plastic or another appropriate material and stored until needed. In some cases, arrangements that are not sold can be wrapped and stored for the following year.

Certain techniques should be used when working with permanent materials in arrangements. A person should work with silk in the same manner as he or she works with fresh flowers. Techniques, such as placing flowers, terracing, and grouping, should be used. The flowers should look like they are growing as a natural product would.

Fresh flowers rarely have perfectly straight stems. The stem of a permanent flower can be twisted and then straightened to produce a natural curve or shape. The arrangements should be made to look as natural as possible. The placement of branches in an arrangement must be in the same direction as they would grow on a tree toward a light source. Silk leaves can be glued on the branches with a glue gun. The leaves should then be placed in the same position as they would if they were live plants.

Trends in Sales and Production

It is interesting to note that trends do not reach every part of the country at the same time. Not all trends are successful in every part of the country either. Color trends and fashions evolve from the clothing design industry and filter to other industries at various rates. The retail florist should be aware of what is being shown in the retail industry including trends in fashions, giftware, and accessories. This information could be learned through trade shows, fashion shows, and floral publications. This enables the florist to keep current on trends in a particular geographical location.



A recent growing market for wholesalers and retailers is the production of "ready-made" arrangements (arrangements that are made by the wholesaler and delivered to the retailer). Because we are such a "now" society, people often want to stop by a shop on their way home from work and pick up an arrangement. Florists as well as supermarkets buy these arrangements because it saves them so much time and energy. Wholesalers who produce the "ready-made" arrangements also package loose assorted flowers into bouquets or bundles that are sold by the retailer and purchased by individuals who want a quick arrangement. These bouquets are placed in a vase or other container by the consumer.

Supermarket Sales. The majority of supermarkets now sell floral products including cut flowers, bedding plants, and potted plants. Floral sales typically average about 1 to 2 percent of the supermarket's total sales. The average markup for typical food items is about 25 percent. Floral products have markups between 30 and 60 percent. This potential profit margin is appealing to the supermarkets. Cut flowers and cut flower arrangements have the highest markups of the floral products sold. Supermarkets are increasingly buying and selling more cut flowers than plants.

Flower Variety. Consumers have developed more sophisticated tastes. They want more of a variety of flowers from which to choose. The trend for the retail florist is to offer more of a variety including imports and other nontypical native flowers. Consumers may purchase flowers more often if there are new and unusual types of flowers or arrangements. Purchasing unusual types of flowers is a challenge to the retailer because less is known about their care. It is difficult for growers and retailers to price these flowers because there is no established market for them. Offering unusual varieties and quality design of flowers may give the retail florist an advantage over the supermarket. Supermarkets tend to sell only the most commonly recognized flowers, such as roses, chrysanthemums, and carnations.

Sales of cut flowers in the United States have risen steadily in recent years and are expected to continue. This includes purchases of cut flowers, small plants, and other merchandise typically sold by the retail florist, but also includes cut flowers sold by grocery stores or other markets.

Imports have increased considerably with domestic production growing at a slower rate. Greater varieties are available from abroad. In the year 2000, 365 million pounds of floral products were imported into the United States. Eighty-five percent came into Miami for distribution. Imported flowers have more blooms per stem, larger blooms, and longer shelf lives. Transportation costs have decreased considerably to make the prices of imports more competitive with domestic flowers. The significant difference between domestic and imported flowers seems to be the difference in selection and quality.

◆ Essential Questions: ◆
Trends in the Floral Industry

1. What is meant by floral wire service?
2. Why is it important for floral designers to understand color trends?
3. How are permanent flowers used by consumers today?
4. Why are supermarket sales of cut flowers such a growing trend?

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TELECOMMUNICATIONS IN THE FLORAL INDUSTRY

Sending flowers by telephone or wire, and more recently by Internet, has grown into a giant industry. Wire service allows a customer to place an order in a flower shop in any city and have the flowers delivered in another city by a floral shop there. The two floral shops must be members of the same wire service. Internet service allows customers to order floral arrangements and gifts online directly through retail florists with Web sites. At these Web sites, customers can view pictures of a variety of floral products that are available. Flowers may be sent to almost any country in the world using these methods.

Online Retailing

Online retailing opened a whole new world of business for the floral industry. BancAmerica's projection of online retail sales in the Gifts/Flowers category is $500 million. The Internet also is an effective and efficient communication tool among growers, florists, and consumers.

The floral industry was one of the first industries to make the transition to online retail sales. Because florists act as middlemen between growers and consumers, there is no required inventory to maintain and no national brands to compete with. Thus, it is relatively easy for any retail florist to conduct business online. In addition, online graphics added a dimension to sales that the wire service did not have. That is, online customers can actually view exact pictures of what they are purchasing.

The two major categories of online floral business: (1) the corporate customer; and (2) the personal shopper. The key to marketing the floral business to both of these groups is reaching consumers who are Web users, who regularly conduct business transactions online, and who have access to a credit card for making those transactions.

One of the first companies to conduct online floral business was FTD.com, started by the wiring service, FTD. Through their online business, FTD.com conducts business with approximately 6,500 FTD florists in the United States and deliver floral products to over one hundred and fifty countries. Other pioneers in the floral e-commerce business include 1-800-FLOWERS.com, PCFlowers.com, and Proflowers.com.

Researchers who have studied various online retail industries suggest that, for the floral industry, it is the level and quality of customer service that will ultimately determine the success of an online floral business.

The future holds some exciting developments for the online floral business. One new development is the option for customers to pick their flowers stem by stem to form a bouquet, just as they would in a walk-in floral shop. Another option is chat rooms where customers can communicate with other customers or with a customer service representative. Another trend is for online floral companies to offer a wider variety of products to consumers, including an assortment of gifts for the home and garden.

Wire Service

With wire service, the customer pays for the flowers, the phone call, and a service charge. The florist who takes the order from the customer retains a discount of 20 percent of the amount of the order. This florist is the sending florist. Florists must accept all orders from other member florists. The florist who fills the order–the delivering florist–must fill it correctly and at full market value.

The wire service organization gets 5 percent of the order. The delivering florist receives approximately 75 percent of the value of the order even though he or she is obligated to fill the order at full value. The delivering florist does not make the usual profit on wire orders, but he or she makes up some of this lost profit on orders that are sent to other florists who are members of the same wire service. A monthly statement is sent which eliminates waiting for payment.

Wire Service Organizations. Wire service organizations send out a weekly report of orders. Each florist is then sent a monthly report tabulating all of the orders sent and delivered. Each florist is sent a check (if the volume of delivered orders exceeds the amount of orders sent) or a bill (if the volume of orders sent exceeds delivered orders). The wire service performs all the figuring for the members.

Wire service organizations publish monthly magazines for member florists. Included in the magazines are advertisements, various articles related to the industry, and an updated list of all current members of the wire service. The retail members are listed alphabetically by city, state, and shop name. Shop names in each city are rotated monthly so that the same floral shop does not always appear at the top of the city's list.

Belonging to one of the wire service organizations ensures the florist of receiving the monthly publication published by that organization. A florist will receive a magazine automatically if he or she is a member of one of these organizations. A florist can be a member of more than one wire service.

Wire service organizations also offer educational materials for their members. These materials are available monthly, weekly, or quarterly. Tips on retail sales, merchandising, salesmanship, and trends are some of the topics covered in the materials. Seminars given at the local and regional levels inform and instruct members on new techniques, processes, and design ideas. New accessories may be displayed with suggestions for their use. These seminars are provided for both retail stores and wholesalers.

Videotapes are available for both loan and purchase. These videotapes cover new techniques, ideas, and other educational information. Wire services also provide notebooks with color pictures of arrangements, accessories, and prices for member shops.

Currently there are three major wire services to which a retail florist may belong. They are Florists' Transworld Delivery Association (FTD); TELEFLORA, Inc.; and Florafax International, Inc.

Florists' Transworld Delivery Association (FTD)

Florists' Transworld Delivery Association (FTD) is the oldest of the wire service organizations. It began in Milwaukee about 1892 and became nationwide in 1910. The organization was originally called the Florists' Telegraph Delivery Association. The name changed to its current name in 1965 because more orders were transmitted by telephone than by telegraph.

Florists interested in becoming members must apply for membership in FTD. Each applicant is investigated by an FTD committee and is carefully considered. Candidates are only accepted for membership after they have satisfied a certain percentage of qualifications. FTD is a nonprofit organization.

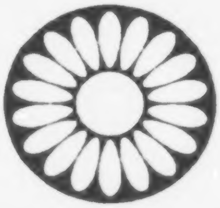
TELEFLORA, Inc.

TELEFLORA, Inc. is the largest independently owned wire service. It was started in Los Angeles in 1934 as a private corporation known as Telegraph Delivery Service (TDS). It is a privately owned, profit-making organization whose headquarters are located in Redondo Beach, California.

Each month TELEFLORA subscribers receive a record of all orders sent out and delivered. Payment is guaranteed by TELEFLORA regardless of the financial stability of the sending shop.

Florafax International, Inc.

Florafax International, Inc. is a publicly owned organization that began in 1961. Its headquarters are currently located in Tulsa, Oklahoma. In 1970, the organization merged with Spotts International, Inc. in Minneapolis, Minnesota, and formed Spotts-Florafax Corporation. In 1974, the corporation was sold back to its original owner. Spotts-Florafax Corporation then became Florafax International, Inc.



With Florafax, the sending florist receives 20 percent of the value of the order. The delivering florist pays Florafax a 5 percent fee and receives 75 percent of the value of the order.

◆ Essential Questions: ◆
Telecommunications in the Floral Industry

1. What is a wire service organization?
2. What services do wire service organizations provide to their members?
3. What are the major wire service organizations? How do they differ?

OTHER RESOURCES

A successful retail florist must keep up with new trends, business suggestions, developments, and other helpful ideas that will keep the florist current. Memberships or subscriptions to weekly trade papers, monthly magazines; local, state, or national trade associations; and wire service organizations are methods of keeping current. Information may also be available through universities and agriculture extension programs.

As any professional, a retail florist should keep current on new trends and developments in the field. Educational materials are available from numerous trade organizations, wire services, and weekly trade papers for retail florists.

Universities and agricultural extension offices are constantly involved in floriculture research. Information regarding their findings and other new information is available through their offices. This information is always current and is often free of charge.

Trade Resources

Subscribing to the weekly trade paper is as important to a retail florist as subscribing to the local daily paper. There are currently four national weekly trade papers. Each has something different to offer the retail florist. Florists should subscribe to at least one trade paper and more if the budget allows.

Numerous local, state, and national trade associations provide information to members. The local organization may be an allied organization or a local group of florists. The state organization is not always limited to the florists residing in a particular state.

The national organization is the ***Society of American Florists (SAF)***. It represents and supports all segments of the floral industry. The society's primary concern is to keep member florists informed of the newest trends. The Society of American Florists offers educational materials for all areas of the floral industry including information for students. Membership dues are included in FTD membership dues. They also have lobbyists in Washington, DC that lobby for the floral industry.

Various wire services and floral organizations plan conventions and meetings. These conventions and meetings are conducted frequently at the local, area, state, and national levels. They typically offer demonstrations or design schools in which instructors and florists present examples of various designs. The designs are demonstrated and explained to those attending. This allows retail florists to remain current about new techniques and designs. It allows them to obtain new ideas and to give their customers better service.

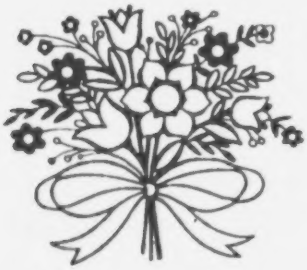
New concepts and techniques in marketing practices are needed to meet the desires and demands of future consumers. The increased need for personalized service can be provided by knowledgeable and helpful personnel. Aspects of credit, delivery, care instructions, quality merchandise, and store diversification will be issues that must be given careful consideration.

Computers are used throughout the industry and will continue to play a more important role in all segments of the industry in the future. Advertising will become more diversified and will have a greater emphasis in the overall operation of the individual stores. Internet advertising and Web site sales have opened a whole new market segment for the retail florist.

Updated information and assistance is available through trade organizations, wire services, trade magazines, and local and national newspapers. A successful retail florist must keep up with new trends, business suggestions, and industry developments and use this knowledge to become better organized and prepared for the future.

Conventions and Design Schools

A progressive florist should join the local, state, and national trade associations. These organizations offer continuing education for retailers, wholesalers, and growers. Convention and trade fairs also are offered by these organizations once or twice a year.



There are several design schools located around the country. A person interested in floriculture can gain valuable experience and knowledge by working in a flower shop. Additional training in salesmanship, store operations, and design can be provided at design schools.

Computer Software

Computers are used in the production aspect of the floral industry to regulate growing conditions in greenhouses. Controlled temperatures and humidity are common in larger growing establishments. Computers can analyze soil, water, and fertilizers to enable the grower to achieve almost perfect growing conditions.

Computers are now used in the floral industry for bookkeeping and other recordkeeping purposes. Information stored in computer memory includes accounts receivable, accounts payable, customer preferences, inventory, and overdue bills. The computer also can be used for other functions including tracking customer birthdays, anniversaries, and other important dates.

◆ Essential Questions: ◆
Other Resources

1. What trade resources are available to the retail florist?
2. What are the benefits of taking courses at a floral design school?
3. How are computers used in the floral industry?

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Chapter Highlights

- The floral industry has experienced dramatic changes since it began. The industry at one time emphasized flowers for funerals and weddings. It has now expanded to include flowers for numerous holidays, special occasions, and everyday use.

- Flowers have played a major role in our society since the earliest known civilizations. Not only have flowers been a way to express feelings and emotions, but also they are a major decorative element in our homes, offices, churches, and for personal adornment.

- The floral designs as we know them today are a combination of two styles, Oriental and European.

- There are four French periods that have influenced the art of floral design: French Baroque (Louis XIV, 1643 - 1700), Rococo (Louis XV, 1730 - 1760), Neoclassic (Louis XVI, 1760 - 1789), and Empire (Napoleon, 1804 - 1820).

- Ikebana is the Japanese style of arranging flowers in decorative, rhythmic designs. This word means, "giving life to flowers."

- From the end of the Colonial Williamsburg period until the 1920s, the Victorian style of arranging flowers was the main type of design used. American florists did add more rhythm, more pleasing color combinations, and a more natural appearance to the designs than seen in earlier Victorian arrangements. Today, American floral designs are a mixture of the Japanese and European designs.

- The CMG divides colors into three separate categories called the forecast colors, ascending colors, and established colors.

- The retail florist should be aware of what is being shown in the retail industry including trends in fashions, giftware, and accessories. This information could be learned through trade shows, fashion shows, and floral publications. This enables the florist to keep current on trends in a particular geographical location.

- A recent growing market for wholesalers and retailers is the production of "ready-made" arrangements (arrangements that are made by the wholesaler and delivered to the retailer).

- The majority of supermarkets now sell floral products including cut flowers, bedding plants, and potted plants.

Chapter Highlights, Cont'd.

- Currently there are three major wire services to which a retail florist may belong. They are Florists' Transworld Delivery Association (FTD); TELEFLORA, Inc.; and Florafax International, Inc.
- Internet advertising and Web site sales have opened a whole new market segment for the retail florist.

Chapter 20

Elements and Principles of Floral Design

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

10A Demonstrate the elements and principles of floral design.

Chapter Vocabulary

analogous color scheme
balance
circular design
clustering
complementary color scheme
cool colors
crescent-shaped design
double flowers
emphasis
filler material
florets
form
form flowers
free-form design
harmony
horizontal design
hue
intensity
layering
line
line flowers
mass flowers
monochromatic color scheme
oval designs
primary colors
proportion
rhythm
scale
s-curve design
secondary colors
shades
shape
single flower
spiral design
split complementary color scheme
terracing
tertiary color
texture
tints
triad color scheme
triangular design
unity
value
variety
vertical design

A floral design can best be described as a plan for arranging flowers in a manner that looks appealing and serves a specific purpose. Floral design is a decorative art form requiring knowledge of color, texture, proportion, balance, and other essentials for well-planned designs. The basic elements and principles of design must be followed to achieve the final goal.

DESIGN CONSIDERATIONS

Many questions must be asked before designing an arrangement. What size arrangement is needed? How tall, how wide, and how deep is the arrangement to be made? As a floral designer, your clients will often just tell you the size that they want. However, it is important for you to ask enough questions to be sure that the size they are requesting is best for the space. If it is to be the centerpiece on a dining table and will be used during the actual meal, then the arrangement must be low enough so that it will not prohibit people from seeing one another. The size of the arrangement will have an affect on the type of container to be used. If it is to be a low and wide arrangement, then the container should be rectilinear or oblong and have low sides. The size of the arrangement to be made also affects the size of the flowers selected because if it is to be a small arrangement, some flowers may be too tall or too large and overpower the arrangement.

The consideration that seems most important to the buyer is color. What is the color scheme in which the arrangement is to be made? Everyone feels personal about the colors that they like. Or, the color scheme of one's home will determine the color choice for them. So, the flowers chosen must follow this predetermined color scheme. White is neutral and can be added to any color harmony. Dark foliage is used to add depth to an arrangement. Along with color, texture is used to add contrast and therefore create interest in a design.

Another consideration is shape. What is the shape in which the arrangement is to be made? As mentioned above, the location of the arrangement will often determine its shape. If the arrangement is to be placed against a wall, then the back of the arrangement will be flat. That is important to know because you would not want to put expensive flowers on a side that no one will see. A design can take on many shapes including the shape of an arch, crescent, or triangle. A design may also be a free form.

What is the occasion for the arrangement? This can have an affect on the choice of container, flowers, and foliage.

◆ *Essential Questions:* ◆
Design Considerations

1. What are some considerations in development of a floral design?
2. Why are these considerations important to ultimately pleasing the customer?

THE ELEMENTS OF FLORAL DESIGN

Once the design considerations are known then the elements and principles should be applied to the floral arrangement. The elements of design are the building blocks of design. The ones that greatly affect

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a floral design are line, shape and form, texture, and color.

Line

Line in a floral design is the visual path that the eye travels as it moves through the design. The line creates the skeleton of the arrangement, especially when linear foliage and flowers are utilized. This element creates the framework that holds the composition together. Emotional qualities are created through the use of line. Vertical lines give a design the appearance of power or strength. Curved lines add gracefulness and create the impression of movement. Horizontal lines add a relaxing appearance to a room and are often used for table arrangements.

Shape and Form

Shape and form are other important considerations in any floral design. ***Shape*** is two-dimensional and refers to the outline of an object. ***Form*** is three-dimensional and refers to the mass or volume of an object. The containers, flowers, and foliage have various shapes and forms. The shapes of flowers and foliage add a great deal of visual interest to an arrangement.

The basic types of design used by most retail florists include the following:

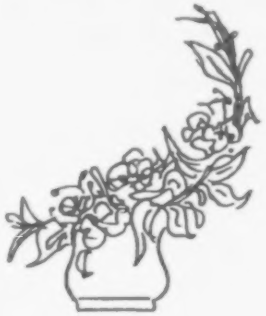
- crescent-shaped
- circular
- oval
- s-curved
- spiral
- triangular
- vertical
- horizontal
- free form or high style

Square and rectangular designs are usually avoided. Most good designs come to points on the sides rather than appearing to have straight sides. Square sides are not visually attractive.

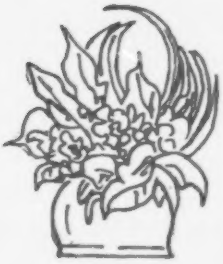
Various flowers help achieve the different forms or designs in an arrangement. Line flowers are good for establishing width and height in an arrangement. They help establish the proper line in an arrangement. Mass flowers are used as focal points or areas and for contrast and interest in an arrangement. Form flowers create shape in an arrangement. Filler flowers and materials help occupy or fill in the space between other flowers.

A successful florist can make appealing and creative designs. Knowledge of the elements and principles of design as well as natural talent helps a person achieve successful designs. Artistic abilities are needed to arrange the flowers into various types of design.

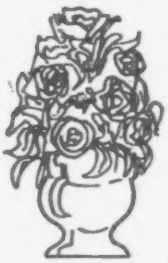
The ***crescent-shaped design*** is shaped like a half-moon. It is an asymmetrical design with one side taller than the other side. A wide crescent must be used to keep the design from looking U or V-shaped.



The ***circular design*** is an arrangement in which all the flowers and foliage form a circle, making the shape of the design round. This type of flower arrangement is considered a mass type. ***Oval designs*** are shaped like ovals and are often difficult to achieve. A primary flower is used to define the oval shape. Other flowers and foliage are used as fillers.

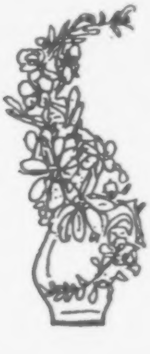


Circular



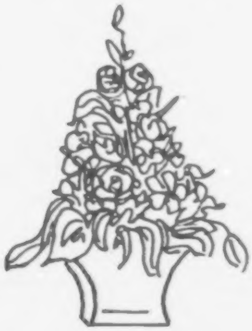
Oval

The ***s-curve design*** is a specialty type design used more by individuals who arrange flowers for competition than by the retail florist. More time is needed to complete this type of design because all of the flowers on the lower part of the S must be wired to form the curve.

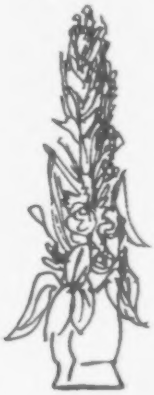


The ***spiral design*** is formed by using two crescent shapes that form a figure the shape of the number nine. This design also requires additional time to prepare and is not used as often by retail florists as it is by competitors.

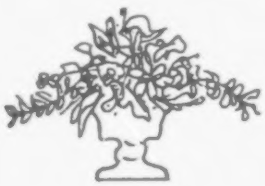
The ***triangular design*** or pyramid design is one of the most popular designs for vase arrangements. All three of the sides are usually equal in this type of arrangement. One version may have two equal sides with a different base length. The triangle may be completely filled in with flowers and greens. The triangle can also be offset somewhat to make an asymmetrical triangle. One side may be short and more vertical while the other side may be longer and more horizontal.



A ***vertical design*** is quite unique. This arrangement emphasizes height and has a distinctive shape. Both the container and the arrangement are tall. Generally, the materials used in the arrangement should not extend the width of the container.



A ***horizontal design*** is simple and easy to construct. The arrangement must be kept low and narrow to emphasize the horizontal line of the design.



Free-form design also called high style design, is typically unstructured or is a combination of many styles. Creativity is essential for a successful free-form design. These designs tend to be somewhat abstract, yet they still adhere to the principles and elements of design.

Free-form designs as well as some traditional designs incorporate three design techniques used by the florist. These techniques are called clustering, layering, and terracing. ***Clustering*** is using the same material together in a space segment or cluster to maximize the color, shape, or texture of a material. ***Layering*** is accomplished by placing materials directly on top of one another. This effect differs from terracing in that there are no spaces between the materials. ***Terracing*** is defined as a distinct change in the horizontal plane with space in between. This could be accomplished by combining a horizontal design with a vertical design.

Texture

Texture refers to the surface qualities of flowers and foliage. Plant material comes in all variety of textures, such as rough, smooth, glossy, dull, and velvety. Texture can be expressed as either visual or physical. Some leaf materials have various patterns or designs but feel smooth. This would represent visual texture. Physical texture can actually be felt. Contrast in an arrangement is achieved through mixing rough and smooth textures side by side in an arrangement. This can add a dramatic quality to any design.

Color

As mentioned earlier, color is one of the most important considerations in any well-designed arrangement. Flowers may be beautifully arranged but if the colors do not fit the surroundings then the arrangement is not going to be pleasing in the space. It is important to understand color theory in order to create designs that are pleasing.

Primary Colors. The ***primary colors*** are red, blue, and yellow. They cannot be created by mixing any other hues but form the basis for all other colors. Mixing all three primary colors in equal amounts will create a black pigment.

Secondary Colors. Mixing two primary colors in equal portions creates a third color known as a secondary color. The primary colors, red and blue, create the secondary color purple or violet. The primary colors blue and yellow, when mixed in equal amounts, create the secondary color green. The primary colors of red and yellow created the secondary color orange. Therefore, the ***secondary colors*** are purple, green, and orange.

Tertiary Colors. A third category of colors is made by mixing equal amounts of a primary color with an adjacent secondary color, thus creating a ***tertiary color***. It carries the name of both colors that are used with the primary color listed first. Therefore, blue plus green make the tertiary color of blue-green.

Colors have other characteristics that are important in the arrangement of flowers. These terms are used to describe colors: hue, tint, shade, value, and intensity.

Hue simply means color. The twelve colors on the color wheel at their brightest are the basic hues of color in design. Any color variation that results from adding white, black, or gray is still related to the basic color family.

Value describes the lightness or darkness of a color. A hue will show various degrees of value, depending on the amount of white or black that is added and these are called tints and shades.

Adding white to any hue creates a tint. A tint is a light or high value. Another name for a tint is a pastel. For instance, the tint of orange is peach. Tints appear much softer than the original hue in this case orange.

Shades are created by adding black to a hue. These shades are said to have lower values. The shade of orange is rust. When tints and shades are used together in an arrangement, the shades will appear heaviest. Flowers having the darker values should be located closer to the focal point since they draw the eye more than lighter values. A mixture of tints and shades in a floral arrangement will create a harmonious design.

The brightness or dullness of a color is the ***intensity*** of the hue. This can also be explained as the purity of a color. A color in its purest form is the most intense because it has not been diluted with white, black, or gray.

Neutral colors are white, black, and the grays, which are created from mixing black and white together. In floral design, flowers in the white family will blend with any color grouping. Care should be taken when mixing white flowers with very dark values, as the contrast might be more than desired. White containers can also be used for any color harmony. Again be careful that the white is not too bright for the desired effect.

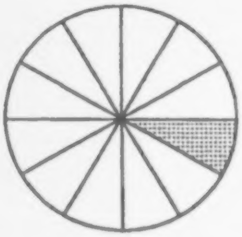
Black and gray create heaviness in a design and should be used sparingly. Black absorbs all the colors in the spectrum. Since there are no black flowers, black and gray can only be used in the containers that will hold the arrangements. A black or gray container adds stability to the design.

Color Schemes

The most commonly used color schemes by florists are the accented neutral, monochromatic, complementary, split complementary, analogous, and triad color harmonies.

The accented neutral color scheme is created with a background of neutral flowers (whitish) accented with a single hue such as peach for emphasis. This color scheme works best in a room with heavily patterned wallpaper or draperies. A floral arrangement with many hues that are repeated in the wall or drapery pattern would be lost in the background. By using a single hue from the wallpaper or drapery pattern accented against neutral flowers will allow the floral arrangement to show up well in the room and have emphasis.

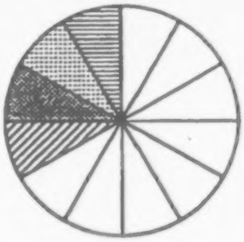
Using flowers and foliage with the tints and shades of a single hue creates a ***monochromatic color scheme***. This arrangement can be used safely in a room where many other colors are present. A monochromatic design can add drama to a room. Using a single hue, such as red, and adding various values and intensities of the color creates a monochromatic design.



A true monochromatic arrangement must be composed of flowers, foliage, and a container that are all in the same color family. The monochromatic color harmony is usually created from flowers having red, red-orange, orange, yellow-orange, yellow, or yellow-green petals because they can be most easily duplicated in flowers and foliage at various time of the year. Since green foliage is most common, it is hard to completely omit its use. Small amounts of green foliage can be used but care must be taken to be sure that the green foliage does not detract from the monochromatic scheme.

It is very important when constructing a monochromatic design to maintain color unity throughout the design. Tints of hues should be placed high in the arrangement and near the edges to add lightness. Shades should be used near the focal point since they add visual weight. Flowers in the darker shades should also be used sparingly and spaced far apart.

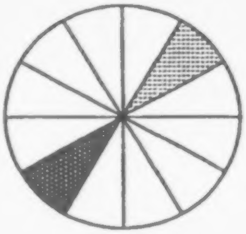
By combining any three colors found next to each other on the color wheel, an ***analogous color scheme*** is created. The most commonly used analogous color harmony is yellow, yellow-green, and green since the green foliage becomes an important part of the arrangement. One color should emerge as the accent color. This accent color should not exceed ten percent of the total volume of color in the arrangement. The flower container should be neutral or the same color as one of the flowers in the arrangement.



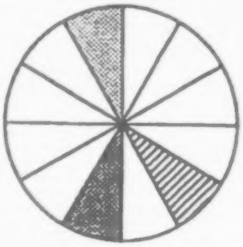
There are flowers that have analogous colors on the same petals. Designers need to build knowledge of flower types so they can select flowers that harmonize with the colors dictated by these petals.

A ***complementary color scheme*** combines colors that are opposite each other on the color wheel. Complementary color schemes are considered the most exciting and are used to create dramatic effects. Violet and yellow are complements, and red and green are complements. A person must remember that using the right proportion of the different colors in an arrangement is necessary to achieve balance in the design.

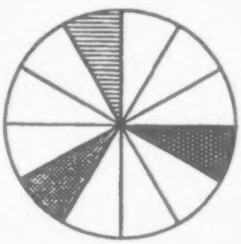
Complementary color schemes express the strongest color contrast. They are natural color contrasts which make them the most agreeable contrasts. These schemes are considered by many to be superior to other color schemes. Orange and blue is considered a second order complement. This means that next to a red and green combination, orange and blue is the most acceptable color scheme.



A ***split complementary color scheme*** is made up of one color used with the two colors beside its complement. The combination of orange, blue-violet, and blue-green is an example of a split complementary color scheme. A ***triad color scheme*** involves hues that are four steps apart and equidistant from each other on the color wheel. Red, yellow, and blue form a triad color scheme. Split complementary and triad schemes should not combine great intensities of colors because they can be overbearing. These schemes are used most successfully in very large arrangements.



Split complementary



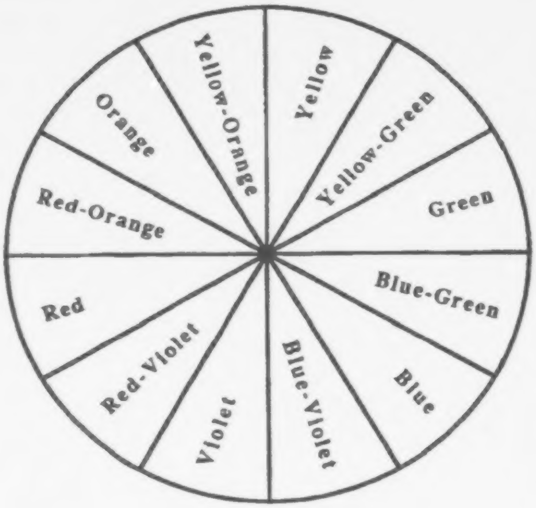
Triad

Any employee who arranges flowers must have knowledge of color schemes. Customers respond to the colors used in an arrangement first, then they respond to the form. A general rule for combining color combinations in floral arrangements is to use 50 percent tints, 30 to 35 percent shades, and the remaining 15 to 20 percent should be full colors. ***Tints*** are colors made because white has been added to a pure color. Pink is a tint of red. ***Shades*** are darker colors made because black was added to a pure color. Burgundy is a shade of red.

The most interesting color combinations in floral arrangements have a contrast or accent color. Complementary colors provide the most contrast. Examples of complementary colors include yellow and violet, blue and orange, and red and green. The contrast decreases when the color chosen to be used with a specific color is farther away from that specific color's complement on the color wheel. For example, red and green are complementary colors. When used together, they provide the most contrast possible. If blue-green (the color beside green on the color wheel) were used, the contrast would be lessened. (See Figure 20.1 to better understand this concept.) The contrast would continue to lessen with each color used going away from green on the color wheel. The least amount of contrast would be provided with the use of red-violet with red since red-violet is beside red on the color wheel. Color contrast also can be diminished by lightening and darkening color values.

The psychological effects of color are another important consideration when selecting flowers for an arrangement. Moods and personalities are reflected and influenced by the use of color. A shy person probably would not want to receive bright red flowers nor would a domineering personality be expected to receive pale pink flowers. Colors and moods influence each other. The proper choice of colors and knowledge of color schemes affect every arrangement a designer makes.

The Color Wheel



⇨ *Figure 20.1*

The ***warm colors*** include red, orange, and yellow. These colors offer the greatest visual attraction to most people. An arrangement of these colors placed in the back of a room can make a large room appear smaller. The warm colors also are known as advancing colors.

The ***cool colors*** include blue, green, and violet. Blue and green may be viewed longer than any other colors without tiring the eyes. Cool colors used in small rooms can make the rooms appear larger. The cool colors are also known as the receding colors. These colors used in an arrangement create an illusion of depth. The following are ways to achieve color balance:

- Use small amounts of bright colors and large amounts of less intense colors.
- Use larger amounts of lighter colors than colors with darker values.
- Avoid top-heavy appearances by using light colors on the top with darker colors placed at and around the point of emphasis.
- Use one part dark colors to three parts light colors. Two parts of medium colors

should be used for transition from dark to light.

◆ **Essential Questions:** ◆
The Elements of Floral Design

1. What elements of design most affect floral arrangements?
2. What three design techniques are often incorporated into free-form designs?
3. How can contrast be achieved in a floral arrangement?
4. Why is color so important in floral designs?
5. How is color balance achieved in floral designs?

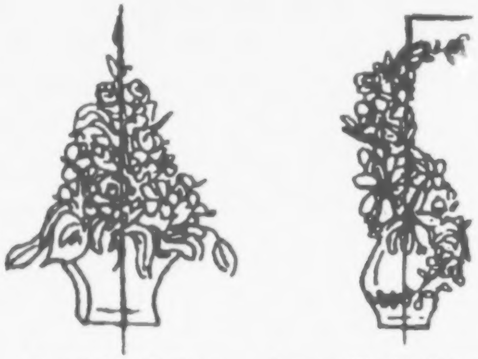
THE PRINCIPLES OF FLORAL DESIGN

Once the elements of floral design are understood, then the rules for applying these elements must be considered. The rules are known as the principles of floral design. These principles are balance, space and proportion, emphasis, rhythm, unity, variety, and harmony. These terms should be understood and used when discussing floral designs.

Balance

Balance is the principle of design that produces a sense of equality in an arrangement. An arrangement is considered balanced if it appears to be equally distributed on both sides of a central focal point. This balance may not represent numbers, but a visual appearance of being balanced. There are two main types of balance to be considered in creating a floral arrangement. They are symmetrical and asymmetrical balance. An arrangement that is symmetrically balanced is one in which the right side is equal in weight to the left side. An arrangement that is asymmetrically balanced is one in which the right and left sides are not equal in weight.

The asymmetrical arrangement is balanced visually but not physically. A visually balanced arrangement means that the arrangement must look stable even if it is one-sided. There are ways to increase the visual weight of the lighter side by adding dark flowers since they appear heavier than lighter colored flowers. Round flowers look weightier than irregular shaped flowers. Besides looking at balance from side to side, a floral designer must also consider the balance from top to bottom. Large flowers placed centrally and near the bottom of the arrangement give a feeling of good balance. Placing flowers incorrectly can make the arrangement look unbalanced.



Symmetrical balance   Asymmetrical balance

Scale and Proportion

Scale of an arrangement is dictated by the size of the design in relation to its surroundings. One could say that the scale of the design was too small for the large entry table. Scale is comparing two different things or objects. For instance, one flower type is very large and one is very small. These two flowers are said to have different scales.

Proportion refers to the parts of a design in relation to the whole. An example of proportion would be to look at the size of the actual arrangement to the size of the container. Generally the actual arrangement should be 1 1/2 to 2 times the height of the container. For a shallow container, the height of the arrangement is to be 1 1/2 to 2 times the width of the container instead of the height.

Emphasis

The ***emphasis*** in a design is the center of interest. The center of interest is the point to which eyes are first directed. This emphasis or center of attention in a floral arrangement is usually just above the upper edge of the vase or container in the center. This emphasis can be a large or developed flower, an unusual shape or accessory, or a ribbon or bow. The center of attention should make other parts of the design subordinate to it.

Repetition helps achieve emphasis. Dominance and interest are necessary to obtain a center of interest. Color accents or curved lines in flower stems and foliage help bring out the center of interest or emphasis in a design.

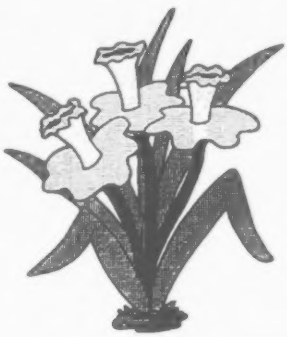
Color must be used correctly or it detracts from the emphasis of the design. One color should dominate a design. This can be accomplished by grouping flowers of one color or by using contrasting colors.

An entire design can be ruined if there is no emphasis. A complete design requires proper use of both form and color. The form and color of the design must combine attractively. The following are ways to achieve emphasis:

- Place the emphasis in the center or off center of the arrangement.
- Do not overcrowd or isolate the emphasis of a design.
- Keep the center of attention low in the design. This portion of the design should neither project forward nor have a pushed in look.
- Use more than one center of attention only if they are seen one at a time. Having more than one point of emphasis may be used in an arrangement that can be seen from all sides.

Rhythm

Rhythm in floral design, like rhythm in furnishings, suggests motion. An arrangement that has good rhythm has emphasis that attracts a viewer's eye then allows the viewer to look at the entire arrangement and return to the center of attention. Rhythm is an expression of energy. Emphasizing rhythm in a design communicates strength and vitality.



Rhythm can be achieved in a variety of ways. It can be accomplished through both form and color. Flowing lines that radiate from a central point give a feeling of movement. Contrasting colors should be grouped together to appear to flow into each other or to form a distinct pattern. Complementary or analogous color scheme combinations are easily spoiled by spotty uses of color. Good rhythm in a design should have gradual but uneven movement away from the point of emphasis. The following are ways to achieve rhythm:

- Flowers have a back, side, and a face. All stems should point toward the point of emphasis to provide graceful rhythm. Confusion occurs in designs when all faces point in the same direction.
- Flowers with different shapes should be combined with related shapes. Good combinations add to the rhythm of the arrangement.

- Large flowers should be used in the center of an arrangement with smaller ones used on the outside of the arrangement.
- Color changes should be gradual from one hue to another.

Unity, Variety, and Harmony

Unity in a design is achieved when all the design parts blend together without a noticeable separation. Repeating related flower types, textures, and colors throughout an arrangement easily create unity. Unity is lacking when an arrangement can be divided into separate parts from top to bottom or side to side.

Variety is achieved when different colors, textures, and flowers are combined to add interest to a design. The nice contrasts between different textures like rough textures and smooth textures help to achieve variety. Variety is important to any arrangement since too much unity can become boring.

When a pleasing mix of unity and variety have been added to a floral design, then the arrangement can be said to have harmony. Thus, unity plus variety equals **harmony**. Harmony is the ultimate goal of any well-designed arrangement. The following are ways to achieve harmony:

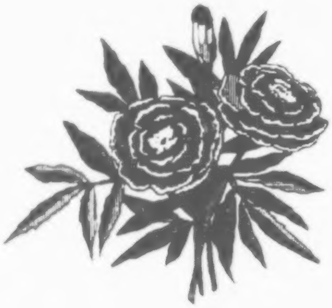
- Avoid using too many colors.
- Do not place flowers in positions that form sharp, abrupt angles.
- Group together similar colors rather than place them randomly.
- Make gradual changes in size, shape, texture, and color.
- Use a container that enhances an arrangement. It should not be the center of attention.
- Avoid using too much or too little of a variety of flowers and foliage in an arrangement.
- Resist using too many flowers. This can make an arrangement look overly massive. Leave empty spaces in an orderly fashion around the outline of the arrangement to help alleviate this problem.

◆ Essential Questions: ◆ The Principles of Floral Design

1. What are the principles of floral design?
2. What is the difference between scale and proportion?
3. How can rhythm be achieved in floral designs?
4. What is the ultimate goal of any well-designed floral arrangement?

FLORAL SETTINGS

Floral arrangements are used in a number of settings beside giftware, with table settings, and on mantels. The color, texture, quality, weight, and pattern of the items used with an arrangement must be considered when selecting the container, flowers, and type of design.



Flower arrangements should harmonize with their surroundings. Colors should blend or provide contrast. The containers selected should be part of the floral design and should be selected with the elegance or simplicity of the floral setting in the overall design scheme.

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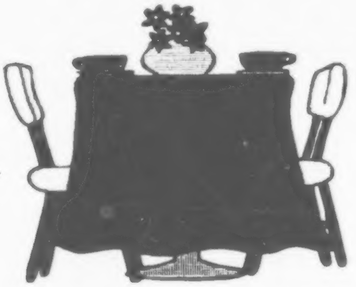
Arrangements are often placed on coffee tables and lamp tables. The designs should be harmonious with the color, texture, and pattern of the tables and furnishings of the room. When used with table settings, the design should blend or contrast with place mats, china, pottery, glassware, and other items.

It is important to remember that arrangements used for dining tables must be designed to be viewed from all sides. These arrangements also must be no more than eight inches tall or below chin level of those seated at the table. Long tables require arrangements that are longer and in proportion to the table. Round or square tables require arrangements that are similar in proportion to the table. Square containers on round tables can be used to provide contrast.



Certain restrictions and allowances must be made for floral arrangements to be placed on buffet tables or other tables that are placed against a wall. This type of design generally does not require a finished back because the back is not seen. Larger and taller designs are permissible for this situation. The arrangement may be more artistic if the wall behind it is a neutral color and lacks in decoration. A brightly colored or other decoratively designed wall requires a subdued design. A picture hanging on the wall above the table makes it necessary to alter the arrangement. A floral arrangement may reach the bottom of the picture frame but should not protrude over the picture.

Mantel arrangements can be composed of two separate arrangements that face each other or one single design. The single arrangement can be placed in the center or on one side of the mantel. The arrangement must suit the architectural features of the fireplace and mantel as well as the style of the room and furnishings.

A mantel with a painting above it has special requirements. The arrangement should lead the eye toward the painting. The arrangement should never obscure the painting in any way. A mirror over the mantel can be enhanced when an arrangement is placed in front of it. The arrangement can be built up on the back and placed in front of the mirror. The mirror reflects the design giving an illusion of depth.

◆ Essential Questions: ◆
Floral Settings

1. What factors must be considered when selecting a container for a floral arrangement?
2. How do floral arrangements for dining tables differ from those needed for buffet tables?

SELECTION OF FLORAL MATERIALS

Flowers and foliage are the basic floral materials. Accessories are also considered basic materials. Flowers refer to ***florets*** or individual blossoms that grow by themselves or in clusters of various kinds. A ***single flower*** describes those in which each floret has a single row of petals. ***Double flowers*** have two or more rows of petals in each floret.

Flowers and Foliage

The shape and effects of each flower, foliage type, or accessory determine its use in

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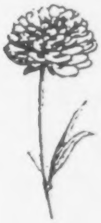
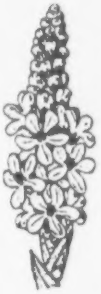
the arrangement. Basically, there are four categories of materials including mass flowers, line flowers, form flowers, and filler materials Most flowers and foliage are in one category, but some may be in more than one category.

Most flowers can be categorized as mass flowers. ***Mass flowers*** are those in which the florets grow at the end of the stem. The stem may have just one floret, such as a rose, or it may have two or more florets, such as a geranium. Mass flowers are available in many forms, sizes, and colors. Carnations, roses, and chrysanthemums are all examples of mass flowers. Mass foliage also is available. Mass materials are used in arrangements to add bulk, weight, and body.

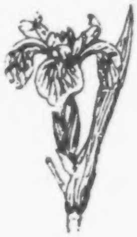


Line flowers have florets that grow along the stem to create a line. The florets may be all on one side of the stem or on all sides. The gladiolus is a line flower with florets on one side of the stem. The snapdragon has florets on all sides of the stem. Eucalyptus is considered a line foliage. The florets or foliage of these materials form a line. Line materials establish the nature of the design.



Flowers that have a precise and distinct form are called form flowers. ***Form flowers*** include orchids and irises. Form flowers are used to create the focal point or focal area of an arrangement. They should be handled carefully and placed precisely so the form of each can be shown to its full advantage.

Filler material is used to occupy the space between the mass, line, and form flowers in a design. Filler material should be added to an arrangement after the mass, line, and form flowers have been placed. The filler material adds solidity to an arrangement. Filler materials include flowers that have floret clusters, such as statice, gypsophila, pompon chrysanthemums, sweet peas, and leather leaf fern.



◆ Essential Questions: ◆
Selection of Floral Materials

1. What are the four categories of floral materials? What is the purpose of each category?
2. What determines how flowers, foliage, or accessories are used in a floral arrangement?

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Chapter Highlights

- Floral design is a decorative art form requiring knowledge of color, texture, proportion, balance, and other essentials for well-planned designs.
- A flower design is a plan for arranging flowers in a manner that looks appealing and serves a specific purpose.
- The elements of design are the building blocks of design. The ones that greatly affect a floral design are line, shape and form, texture, and color.
- Most flowers can be categorized as mass flowers. These are flowers in which the florets grow at the end of the stem.
- Accessories are objects included in an arrangement that are not plant materials.
- A design can take on many shapes including the shape of an arch, crescent, or triangle. A design may also be a free form.
- Line flowers are used to establish width and height in an arrangement.
- Free-form designs, as well as some traditional designs, incorporate three design techniques used by the florist. These techniques are called clustering, layering, and terracing.
- The psychological effects of color are another important consideration when selecting flowers for an arrangement. Moods and personalities are reflected and influenced by the use of color.
- A customer responds to the colors used in an arrangement first and then responds to form.
- Floral arrangements are used in a number of settings beside giftware, with table settings, and on mantels. The arrangements used should harmonize with their surroundings.

Chapter 21

Equipment and Supplies

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

10B Identify basic equipment and supplies used in floral design.

10C Demonstrate proper selection, use, and care of equipment, tools, supplies, and materials for prescribed tasks.

10D Apply storage and care procedures for floral materials, supplies, cut flowers, and live plants.

Chapter Vocabulary

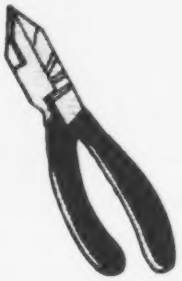
containers
floral clay
floral tape
florists' foam
glue gun
mechanics
pin holders
plastic saucers
preservative
ribbon
vases
wire mesh

A basic understanding and knowledge of necessary equipment is needed before an arrangement can be completed. Using the proper equipment helps an employee design an arrangement efficiently since most of the same equipment is used repeatedly for each arrangement. Use of appropriate equipment also ensures that the design is durable and long lasting. In cut flower arrangements, the correct use of equipment is important for maintaining healthy flowers and foliage.

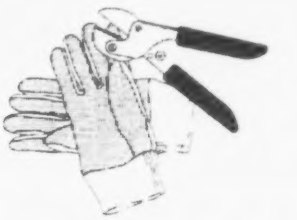
Equipment that is used in floral businesses has been chosen by florists because it best performs the tasks required. Equipment can only continue to perform these tasks effectively if it is in good working order. It is the responsibility of employees who use this equipment to communicate information to managers or owners about equipment that needs repair, additional equipment needed, or equipment that should be replaced.

BASIC EQUIPMENT FOR FRESH FLORAL ARRANGEMENTS

Most of the basic equipment needed for completing fresh floral arrangements is not very expensive, but it should last a long time. Such equipment includes a sharp pair of wire cutters, pruning shears, a small knife, and containers for holding flowers until they are needed for an arrangement. Other equipment that is used to make up each arrangement must be kept in stock and ordered regularly. It should be used in proper amounts and not wasted. Holding devices, also known as ***mechanics***, are used to secure the flowers and foliage in a floral design. These include florists' foam, pin holders, wire mesh, and floral tape. A pair of sharp scissors is needed to cut ribbon, but should not be used on flower stems.



Floral arrangements are typically made up in inexpensive glass or plastic containers of various shapes and sizes. The customer's own container can be used upon request. Many florists also offer a variety of decorative or novelty containers for sale. Customers can select them for special designs.



Arrangements made in bowl-type containers require the use of a piece of florists' foam taped to the container. ***Florists' foam*** is a type of foam that absorbs and holds water similar to a sponge. The stems of cut flowers are pushed into the foam to firmly hold the design. The water in the foam keeps the flowers fresh. The florists' foam may be taped to the container to provide additional support for flowers and foliage. Tall containers or ***vases*** also may also be filled with crushed florists' foam or Styrofoam before being filled with water. A ***preservative*** is a nutritive substance that is usually added to the water of an arrangement to prolong the life of the flowers. Water often may not be added to an arrangement if it is to be delivered soon. This is to avoid spilling during the delivery. Water is then added to the arrangement when it reaches its destination.

◆ *Essential Questions:* ◆
Basic Equipment for Fresh Floral Arrangements

1. What are mechanics?
2. What is their purpose?
3. When is water occasionally left out of floral arrangements? Why?

WIRING FLOWERS AND FOLIAGE

Wiring has become a fundamental skill of the retail florist. Creative floristry commands the widest profit margin and brings the greatest amount of praise. New and unusual arrangements are always needed by the florist to keep up with current trends. Skillful wiring allows control for numerous possibilities in creating new designs. Reasons for wiring flowers are listed in Figure 21.1.

Flowers should not be wired without good reason. Funeral sprays and wedding flowers are typically wired since they are on display for some length of time and to keep them from breaking during transport from the church to the cemetery. Weak stemmed roses as well as carnations should be wired. A weak stem bends under the weight of its flower.

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This bending cuts off the water supply from the bottom of the stem to the flower. This results in rapid wilting. A wired flower stands erect, and the water supply is allowed to continue. This lengthens the life of the flower as well as enhances the appearance of it. However, under normal conditions, quality flowers do not need wiring.

Four Reasons for Wiring Flowers

1. To keep flowers in position
2. To lessen the weight of the flowers on the stem
3. To improve the appearance of an arrangement
4. To give flowers longer life

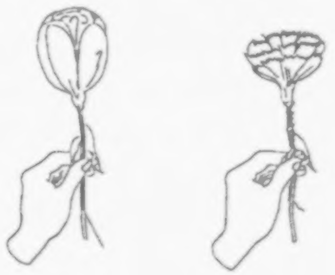
⇨ *Figure 21.1*

Wire with green enamel is available and preferred by most florists because it is less noticeable. Using the correct color, length, and weight of wire is important for the creation of good floral arrangements. Different types of flowers require different weights and lengths of wire. The stability and texture of the flower should be considered when selecting wire.

An employee should choose a wire based on the desired position of the flower, the weight of the flower, and the texture of the flower. The position of the flower in its perspective arrangement is usually determined by its color, the length of the stem, and the flower's form. Stems of wilting flowers bend quickly. These should be wired and used quickly. This wiring process helps support the stem and flower, which allows it to remain fresh longer.

Wiring is best when it cannot be seen. Some flowers have stems that are hollow and fleshy enough that the wire can penetrate the center of the stem. The wire should be pushed through the stem up through the flower head. A hook should be formed with the top of the wire, then the wire should be pulled back into the flower head to give extra strength. This procedure can be used with flowers, such as zinnias, tulips, delphiniums, and other hollow stemmed flowers.

Flowers, such as lilies, carnations, asters, roses, irises, and usually chrysanthemums, must be wired on the outside due to the structure of their stems. The wire should be wound around the stem making certain that it is not wound more than necessary. This procedure must be done carefully in order to avoid snapping off the flower head. The flower should be held in the palm of one hand and the wiring should be done carefully with the other hand. All wiring should be hidden behind foliage as much as possible. The wire should protrude the edge of a bloom instead of going into the calyx which stops the water flow.



Wire is available in various thickness or gauges. These are usually numbered. The larger the numbers, the thinner the wire. Most wire is available in eighteen-inch lengths. Some may be available in twelve-inch lengths. Table 21.1 indicates types of wires and their uses.

Flowers should be handled as little as possible during the wiring process. Every time a flower is handled it can result in a bruised stem or a weakened bloom. The life of a flower is shortened each time it is damaged.

Uses of Specific Gauges of Wire	
Gauge	Description and/or Use
#18	The heaviest wire used. Typically used for wiring stout gladioli, calla stems, and hyacinths.
#19	Used for wiring heavy, brittle stems, such as gladioli.
#20	Used to wire roses, carnations, asters, and snapdragons. Also used in spray work.
#21	Used for wiring roses and carnations.
#24	Used for wiring small flowers, such as sweet peas and scabiasas.
#26	Used to provide support for flowers in bouquets.
#32	Known as hair wire. Used for intricate work with small, soft-stemmed flowers, such as pansies and violas.

Table 21.1

◆ *Essential Questions:* ◆
Wiring Flowers and Foliage

1. What are the three factors that determine the type of wire chosen for wiring flowers?
2. What types of flowers must be wired on the outside?
3. What is #20 wire used for primarily?

HOLDING DEVICES/MECHANICS

Containers

Containers are available in a wide variety of sizes, shapes, colors, and prices. ***Containers*** are used for holding flowers, foliage, and materials used in floral arrangements. They can be made of wood, plastic, metal, papier-mâché, or glass.

Containers are available in a wide range of colors. The colors of containers and flowers must be combined wisely. Employees should use containers that are the same color as or a complementary color of the flowers to be used. The container should enhance the design rather than detract from it or overpower it. The textures of the containers and the flowers should complement each other. If stands or podiums are used, they are considered part of the container and must blend in color, shape, and texture with the rest of the design.

Pin Holders

Pin holders are heavy metal pieces with many small, upright pins. To hold them in place, the stems of flowers and foliage are pushed onto the pins. This type of holding

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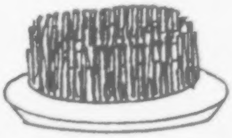
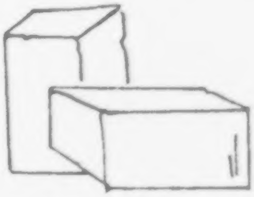
device is useful when creating an arrangement with a limited number of flowers in a shallow container. Stems should be placed vertically then moved or bent gently into the required angle. Woody stems usually should be split upward from the base. This helps to secure them. Small, lightweight pin holders are often used with florists' foam in a container. Although once widely used in the floral industry, pin holders have been replaced by foam and wire mesh.



Florists' Foam

Florists' foam is probably the most popular holding device used by retailers. It is green and is made of a uniquely manufactured substance that readily absorbs water. It supports almost any stem inserted into it. Florists' foam is available in many sizes and shapes and can be cut to fit snugly into containers. It can be used in both fresh and artificial arrangements. There are several types of foam available on the market. When doing fresh arrangements, it is best to use waterfoam. Flower stems should be cut at an angle to hold them tight in the foam. The other foams are used for silk and dried arrangements.

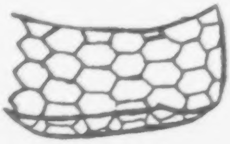


The foam should be soaked in cold water before it is used in a cut flower arrangement. Flower stems should be inserted into the foam which will hold and support them providing the stems are not too heavy. The foam must be kept moist after the flowers and foliage have been inserted. It should never be allowed to dry out. The foam does not absorb water again once it has dried. Foam that has been moistened for a cut flower arrangement then not used should be kept moist. This can be done by sealing it in an airtight plastic bag until it is needed. The disadvantage of using foam is that it tends to break up if it is soaked too much, if it is overused, or if heavy stems are used.

Waterproof bulldog tape is used to secure foam in the container. ***Floral clay*** is used to anchor various holding devices to the bottoms of the containers. ***Plastic saucers*** are used as bases for florists' foam (dry or soaked). The foam is taped to the saucer before it is placed into the container. U-shaped pins and wire are occasionally used for attaching foam to bases.

Wire Mesh

Wire mesh is wire that is woven with open spaces, such as a net or screen, used to provide support for large flowers in an arrangement. It may be used for heavy stemmed fresh displays as well as more randomly designed arrangements. It is also used for artificial arrangements.



Wire mesh should be crumpled into a shape that fits in the container. Care must be taken to ensure that the wire is not crushed too tightly. The holes formed by crumpling must be of adequate size to hold and support the flowers and foliage that are to be used.

◆ **Essential Questions:** ◆
Holding Devices/Mechanics

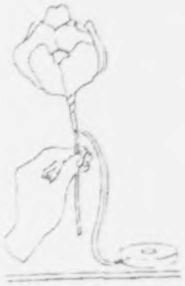
1. What is florists' foam? What characteristics make it suitable for floral arrangements?
2. How is the florists' foam anchored to the container?
3. When is wire mesh used as a holding device?

FLORISTS' SUPPLIES

Floral Tape

The unique characteristic about ***floral tape*** is that it stretches. It is available in colors including green, light green, orchid, brown, and white. It comes in widths of half an inch. It is used to cover wires and stems to make more attractive floral designs.

Taping is primarily done to wrap and finish flower and foliage stems in bouquets and corsages. It also is used to cover wiring that may have been used in a design. Tape is available in various colors and is usually self-adhesive. Various types of tapes are available including a waxed, elastic paper type and an adhesive ribbon type.



The taping of stems accomplishes three main functions. It protects the stems, covers the wires used in designs, and enhances the color harmony of an arrangement. Taping protects the stems and is usually done in wedding and corsage work. Taping stems covers wires used on the stems. Covering the wire with tape prevents potential rust from harming fabrics. Tape also is more attractive to look at than the wire. Taping can enhance the color harmony achieved by a design. For this purpose, tape is available in a variety of colors.

Taping should be begun as close to the top of the wire and base of the flower as possible. Taping should look as natural as possible. The tape is wax-covered and must be pulled tight while twisting the flower stem. This twisting and taping is continued to the end of the stem or wire.

Ribbon

Ribbon is used in corsages, some funeral designs, wedding designs, and other specialty designs. It is available in numerous styles, widths, and designs. It can be made of satin, rayon, acetate, or cotton. It is available in seasonal and holiday designs. A variety of ribbons should be kept in stock for use in arrangements and to decorate pot plants. Often, customers like to choose the ribbon used on arrangements for gifts.

Beautiful bows can be made with ribbon to enhance floral designs. Employees can make bows during slow periods for later use. This helps to keep employees busy and reduces the amount of time a customer may have to wait for an arrangement to be completed. It is also helpful to have bows already made for use during busy seasons, such as Christmas and Easter.

Other Items

Other items used by florists include frames, water picks, thread, spray paint, corsage pins, and foil. Glue guns are used more often with artificial flowers and plants. Glue sticks are forced through a heating chamber of a gun-shaped tool called a ***glue gun***, which produces hot glue that can be used to adhere

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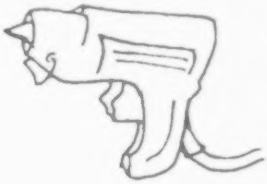
items together. The glue cools quickly and provides excellent holding strength. Cold glue guns also are available for light work, but they do not hold as well as the hot glue.



The mechanics used in an arrangement should be hidden by the flowers, foliage, or the container. Marbles, pebbles, and shells provide a form of support for flowers and cover the mechanics used in glass or other translucent containers.

◆ **Essential Questions:** ◆
Florists' Supplies

1. What are the three functions of floral tape?
2. How is ribbon used in the floral business?
3. Why is a glue gun a useful tool for florists?

BASIC EQUIPMENT FOR ARTIFICIAL FLOWERS

When working with silk, some dried, and other artificial flowers and materials, the most important piece of equipment to purchase is a pick machine. This machine puts a metal pick on the end of the plastic or wooden stem making them easier to position into the floral foam. Most of the other basic supplies are the same as for fresh floral arrangements. The type of floral foam purchased for silk and dried is different from water foam. Care should be taken to be sure the correct floral foam is purchased.

Chapter Highlights

- Holding devices, also known as mechanics, are used to secure the flowers and foliage in a floral design. These include florists' foam, pin holders, wire mesh, and floral tape. A pair of sharp scissors is needed to cut ribbon, but should not be used on flower stems.
- A preservative is a nutritive substance that is usually added to the water of an arrangement to prolong the life of the flowers.
- Creative floristry commands the widest profit margin and brings the greatest amount of praise. New and unusual arrangements are always needed by the florist to keep up with current trends.
- Flowers should not be wired without good reason. Funeral sprays and wedding flowers are typically wired since they are on display for some length of time and to keep them from breaking during transport from the church to the cemetery. Weak stemmed roses as well as carnations should be wired.
- The desired position of a flower, the weight of the flower, and the texture of the flower are the three factors that determine the type of wire to be used.
- Containers are used for holding flowers, foliage, and materials used in floral arrangements. They are available in a wide variety of sizes, shapes, colors, and prices.
- Wire mesh is used for heavy stemmed, fresh displays as well as more randomly designed arrangements.
- When working with silk, some dried, and other artificial flowers and materials, the most important piece of equipment to purchase is a pick machine. This machine puts a metal pick on the end of the plastic or wooden stem making them easier to position into the floral foam.

Chapter 22

Cultivation and Care of Floral Products

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

11A Explain advances in cultivation techniques.

11B Analyze preservation techniques for plants and cut flowers.

Chapter Vocabulary

- African violets
- asters
- azaleas
- bracts
- bulbs
- butterfly orchids
- carnations
- cattleya
- cut flowers
- cyclamen
- cymbidiums
- daffodils
- disbud chrysanthemum
- Easter lilies
- ethylene
- forced-air cooling
- floribundas
- fuji chrysanthemums
- gardenias
- geraniums
- hybrid tea roses
- lady-slipper orchid
- long day plants
- orchids
- poinsettias
- pompon chrysanthemums
- pulsing
- shadehouses
- short day plants
- snapdragons
- specialty cut flowers
- standard chrysanthemums
- stocks
- tailored flower

Successful employment in the floral business requires adequate knowledge of the use and care of highly perishable products. The care of the florist's stock is an area of the business which requires a great deal of knowledge and skill. Flowers from various parts of the country require different care. Often, flowers require different care during various seasons of the year.

Each employee in the floral industry should know the sales of cut flowers, foliage, flowering pot plants, and greens used to create floral designs. A successful employee also should have knowledge of quality, price, and product availability in the industry. Having an understanding of seasonal variations also is important.

Cut flowers are all flowers grown for use in floral arrangements. The top three cut flowers are roses, carnations, and chrysanthemums. Roses have the most problems of these three flowers because most of them are imported from other countries such as Ecuador, Columbia, or South America. However, growers are experimenting with greenhouses so that they can be grown in Texas.

Specialty cut flowers are crops other than roses, carnations, and mums. Specialty flowers would be tulips, irises, freesia, gerbera daisies, gladiolas, to list a few. There are many specialty cut flowers available.

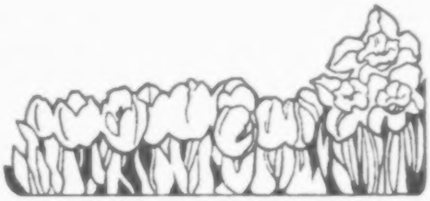
There are three main reasons people buy flowers. These are for special occasions, such as birthdays, anniversaries, holidays, funerals, weddings, etc. Individuals also buy flowers to communicate emotions –apology, thank you, forgiveness, or for congratulations. Lastly, flowers are purchased as household decorations. People want to decorate with flowers when they are having a special dinner party or family gathering. This is especially true during the Christmas holiday season. Floral decorations make the home seem much more festive.

Research shows that individuals in the United States spend an average of $21 on a cut flower purchase. This figure is less than what individuals in other countries spend on cut flower purchases. For instance, individuals in Japan spend about $50, people in Germany spend about $38, and individuals in Holland and Switzerland spend approximately $45 on cut flowers. In the future, the amount Americans spend on a cut flower purchase will be much more because flowers are becoming more and more a part of our culture.

Importers are critical to the cut flower industry in the United States since 75 percent of flowers are imported. As the cut flower industry continues to increase in America, more and more experimentation in cultivating a variety of flowers will be done. This could bring a great deal of income to the US as well as to Texas since this is a growing market. Native flowers to the United States such as the liatris, have been improved in other countries and made a staple in cut flowers.

CULTIVATION OF CUT FLOWERS

Like other industries, commercial flower growing is becoming more scientific. Those involved in the floral industry must keep informed of fast-changing methods. As mentioned in Chapter 17, mechanization in the floral industry means that more and more operations are done with machinery, rather than by hand. The growing of many crops now and in the future will require less labor. Mechanization combined with computers is the basis for the future floral industry. Staying up on new technology in the floral industry can be achieved through reading trade magazines, bulletins, and books. Other ways to stay informed include attending trade workshops and association meetings. Exchanging ideas with other growers is also beneficial.

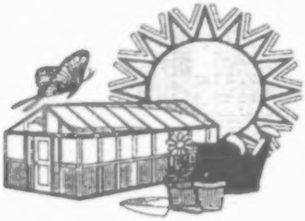


Three basic methods are used in the growing of plants and flowers. Some flowers are grown in greenhouses, other are grown in the fields, while still others are grown in shadehouses. The method used depends upon the climate and the type of flower grown.

Cultivation of Flowers in Greenhouses

To really understand the cut flower industry, it is important to understand how flowers are grown. The greenhouse is extremely important to the growing of flowers especially in the winter months or in extreme temperatures. The quality of products from a greenhouse depends on the type of greenhouse and the care and attention the plants and flowers receive.

Two basic designs for greenhouses are free standing and lean-to. Greenhouses are expensive to build and to operate. The most obvious difference in greenhouses and other structures is that the covering on a greenhouse must provide the maximum amount of sunlight. Greenhouses were traditionally made of wood and glass. In other parts of the world, these structures are often called glasshouses. Glass covering is still used, but other products have been developed to replace the traditional glass. The use of wood is no longer common. It has been replaced with steel and aluminum.



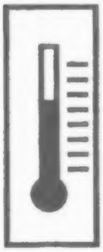
Plastic films, such as polyethylene film, are most common in the United States. Plastic film is lightweight and inexpensive. Under certain circumstances, it is the best type of covering for greenhouses. It can be used on many types of greenhouse frame designs. However, because ultraviolet light from the sun causes the plastic film to become brittle and break, it only lasts about two years. Double layers of plastic film add insulation and can last from two to four years.

Heating and cooling systems must be installed in these greenhouses to maintain the proper temperature that the flowers need to grow. Some flowers are planted in the ground while others are planted in containers. Shade cloths and curtains are used over the greenhouse to prevent the sun from scalding plants.

Shadehouses are modified greenhouses. These are used primarily when weather conditions are favorable for the culture of flowers and plants and greenhouses are not necessary. The side posts are made of wood, pipe, or other tubes. These posts are set deep into the ground and the tops are covered with a cloth or other material similar to that used on a greenhouse.

There are many varieties of flowers and certain flowers need different temperatures in order to grow properly. It is not necessary in all locations to grow flowers in greenhouses. However, it is easier to control day and night temperatures. Night temperatures range from 50 to 71° depending on the crop. Orchids and green foliage plants require a warmer temperature of 71°. Roses, mums, and azaleas need a night temperature of 61 degrees. Carnations and snapdragons require a night temperature much lower such as 50°.

Day temperatures should be 5 to 15° warmer than night temperatures. Day temperatures are harder to regulate because of the sun's rays. Some steps that can be followed to reduce day heat are to provide more shade for flowers. Flowers require more water and it is important to mist them to increase humidity. A humidity level of 90 to 92 percent is best. Humidity levels below 80 percent



greatly reduce the life of flowers. Humidity levels above 92 percent result in the growth of pathogens, a disease causing the growth of microorganisms.

By using greenhouses, it is possible to grow crops that are out of season since various elements can be controlled. Some plants are known as short day plants. ***Short day plants*** are plants that require more darkness in order to bloom. Azaleas, mums, poinsettias, and some orchids are short day plants. In the summer, the greenhouses should be covered with light, tight, dark cloth from 5:00 to 8:00 a.m. to force blooms. During the winter months, the greenhouse needs to be lighted for 4 hours after dark each night.

Long day plants normally bloom in the summer. Daisies and liatris are examples of long day plants. ***Long day plants*** are plants that require more daylight to bloom. If growing in the winter, then the greenhouses will need to be supplemented with light to imitate the longer days of the summer.

When growing flowers in greenhouses, it may be necessary to control the height of the flowers so that they do not become too tall. This can be controlled with the use of chemicals. It is also important that flowers are fed by adding fertilizer, which contains macronutrients to the water. Some of these nutrients are nitrogen, phosphorous, potassium, and sulfur. These nutrients are very important to the growth and heartiness of the cut flowers.

Cultivation of Field Crops

When growing flowers in the field, the environment will determine the species chosen because not all flower types will grow in all climates. If a species is chosen that does not need as warm of temperatures as that area has, then the plant may be stunted and be of low quality. Prolonged stress caused by the heat, the cold, too much water, too little water, or too fast of growth can reduce the life of the flower after it has been cut for harvest. Reducing the temperature, water, or growth rate, will allow the cut flower to be much heartier and have a longer life for the florist and the end user. Almost 20 percent of all flowers harvested are never used by the consumer because of loss through damage, mishandling, and lack of preservative.

The best time to harvest flowers is a compromise of various factors. The morning is generally the best time to harvest flowers because the flowers are turgid or stiff. However, in the mornings the flowers may be wet with dew and thus get a fungus. Late afternoon is too warm for flowers to be harvested. If the temperatures are really high, then 8:00 p.m. is the best time to harvest the crop. Morning is the best time to harvest plants that lose water rapidly. You should not harvest at all if the temperature is above 80° F.

Once the flowers have been harvested then they need to be put into water that has been treated with preservative and then placed into a cooler. Some plants are ethylene sensitive and will have to be treated to keep them from shattering prematurely. ***Ethylene*** is a gas that is released by all cut flowers. So when these flowers are harvested they are transferred to water in the field and treated with silver thiosulfate, STS.

Another important factor is knowing at what stage of development to pick flowers. Flowers should be harvested in the bud stage. This way the flowers are not as easily damaged by machinery. Also, the amount of space needed for the flowers during shipping will be less since the buds are small. Finally, when flowers, such as roses, are picked in the bud stage they have a longer storage life. However, buds that are picked too green will never open. Spike flowers, like gladiolas and snapdragons, should have one or two base flowers open when harvested. Some daisies will be fully opened before harvesting.

◆ Essential Questions: ◆
Cultivation of Cut Flowers

1. Why is it important for employees in the floral industry to have adequate knowledge in the use and care of floral products?
2. What are the three main reasons individuals buy flowers?
3. What are the three basic methods for growing flowers and plants?
4. What is the purpose of adding fertilizer to the flowers and plants grown in greenhouses?

CARE OF CUT FLOWERS AND FOLIAGE

Care of the Cut Stem

The number one factor in maintaining cut flower life is lowering the temperature of the flowers. For most flower species 35-36° F is the proper temperature. It is important when flowers are first cut that the field heat is lowered as quickly as possible. Flowers are then graded by quality and packed in a 36 to 40° cooler.

One method of quickly cooling flowers is by forced-air cooling. ***Forced-air cooling*** is achieved with boxes that have holes and flaps in them. These boxes are placed in a cooled storage that has large fans in them. The air is forced in and out of the boxes. The flowers cool much faster than by merely placing them in cold storage. Once the heat has been pulled out of the boxes it also must be removed from the coolers.

Another important factor in preserving the life of the cut flower is watering and feeding the cut flowers. Once flowers are cut they can no longer make their own food. Therefore, floral preservatives have been developed that must be added to the water. These preservatives are made up of sugars and bactericide. When preservatives are used from the time the flowers are cut until the time they reach the consumer, the life expectancy of the flowers can be increased by approximately 200 percent.

The water level of the flower containers only needs to be one inch deep. Putting too much water in the container does not allow for enough air to be maintained in the stem. If flowers are extremely dehydrated or it is necessary to force the buds to open, then the water should be approximately 100-110° F.

The containers used also influence the life of the flower. Vases should be thoroughly washed after each use. Nonmetallic containers work best for storing flowers. Some metal containers deactivate various preservative solutions which decreases the life of the cut flower.

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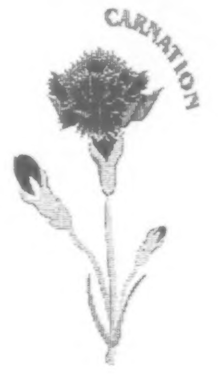
Pulsing is another procedure that prolongs the life of the cut flower. ***Pulsing*** means submerging freshly harvested flowers in a solution to extend vase life. This solution is made up of sugar, silver thiosulfate, and silver nitrate.

As mentioned earlier, it is important that ethylene sensitive flowers, such as carnations, lilies, and snapdragons, are treated to extend their life. STS pulsing is used to treat them. This procedure uses a mixture of water and silver thiosulfate in which to submerge the flowers. It is important to keep damaged flowers and leaves off cooler floors as this helps keep down the level of ethylene gas. Ripening fruits release the most ethylene gases. Therefore, the rule is that flowers and fruit do not mix. Arrangements that need to only have a short life are the exception to this rule. Often fruits, such as apples, oranges, lemons, limes, pears, etc., are placed in a clear vase filled with water and long stems of gladiolas come out of the middle of the fruit. This makes an attractive design but the arrangement will not last very long. The fruit will cause the flowers to die more quickly.



Removing the bottom one-third of leaves from the flower stem is important before flowers are stored in water and placed in the cooler. Leaves that are immersed in water can result in bacterial growth. This allows toxins to build up in the container and ultimately in the cooler. These bacteria will cause the flowers to die much more quickly.

When caring for store cut flowers it is of critical importance that the water/preservative solution in the flower container be changed everyday. Flowers need to be transferred to another container until the original container has been rinsed out well. One inch of fresh water with the appropriate amount of preservative needs to be added to the cleaned out container. The next thing that needs to be done is to recut stems. Since stems must be recut frequently until they are sold, care should be taken that only a very small amount of stem is cut off at a time. When working with roses, it is best to cut the roses under water. This helps roses to absorb water better.

Air purifiers can help to reduce the growth of fungus and gray mold in storage and display areas. Some wholesalers have had good results from using air purifiers. When caring for cut flowers:

- Keep storage containers, boxes, and vases clean at all times.
- Store cut flowers in water.
- Add chemical preservatives to water before placing cut flowers in it.
- Strip foliage off the bottom 1/3 of stems that might be placed under water to prevent decay and contamination to the water.
- Check all storage equipment often with thermometers and humidity gauges.
- Maintain all equipment in good, working condition.
- Recut stems and change water solution daily.

Care of Foliage

Most foliage is long-lasting and requires little if any conditioning. Foliage, such as heather and ivy, can be immersed totally in cool water for about an hour before being used in an arrangement. Hydrangeas also benefit from this treatment, but only require thirty minutes of immersion. It is important to remember that any foliage placed under water in an arrangement will decay. Any foliage that falls under the surface of the water in an arrangement should be stripped to avoid this type of decay.

Cut foliage or greenery plays an important role in cut flower arrangements. It can be used by itself but is used more often as filler material in an arrangement. Foliage is available in a wide range of textures, shapes, and colors and lasts a long time. Most foliage used by florists keeps well in a packing case until it is needed. Packing cases are flat boxes with holes to allow air circulation. No water is used. They may be stacked in the storage refrigerator. Foliage stored in this manner includes holly, magnolia leaves, ivy, camellia foliage, and boxwood. Soft, leafy foliage, such as string smilax, should not be stored with fresh flowers because they negatively affect the keeping quality of fresh flowers. This foliage should be wrapped in a damp towel or cloth and kept in the refrigerator until needed.

Heather, bittersweet, pepper berries, and other more decorative foliage also keep well in the cooler without water. Foliage that should be kept in water includes caladium and coleus. Much of this foliage can be prolonged by using a coating of floral wax on the arrangements and by keeping them at average room temperature.

Permanent foliage can last indefinitely if stored properly. This type of foliage is primarily used for permanent arrangements, outdoor wreaths, and similar items. Permanent foliage is available in duplications of almost every live foliage including magnolia leaves, oak foliage, cattails, and ivy. Permanent foliage and other decorative items, such as Indian corn, may be stored in dust-free containers or boxes in a dry storage area.

The Shipping of Cut Flowers and Foliage

After cut flowers have been harvested, ethylene sensitive flowers have been treated, flowers are force-air cooled, graded, and inspected. Then the flowers are ready to go to the flower brokerage or exporter. Sometimes cut flowers are sold directly from grower to wholesaler.

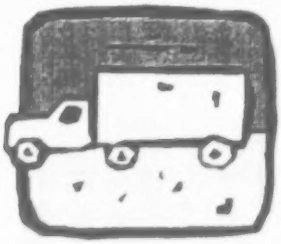
When flowers get to the brokerage they are put up for auction. Buyers representing many wholesale florists are present to bid on the flowers for the company or companies they are representing. Sometimes the buyer purchases items that the company has requested, or most often, the buyer purchases flowers because of quality, price, or availability.

After the buyer purchases flowers for the wholesaler, then the exporter must pack the flowers for shipping. The flowers are recut, fed, and put into boxes and force-air cooled. This time the cool air is forced into the boxes through the holes and then the holes are closed. The boxed flowers are taken to the airport on cooled trucks. These imported flowers primarily arrive by plane to Miami, Florida. Once the flowers arrive in the United States, they must be inspected for bugs, drugs, and diseases.

The wholesale florist picks up the flowers and foliage at the airport and rushes them to their nearest warehouse. Once the flowers arrive there, they are unpacked, recut, fed, and repackaged. Different varieties of flowers are packaged differently. For instance, roses are packaged by the dozen and the bottom third of leaves and thorns are removed. Some varieties of flowers are bought individually, like gerbera daisies. But most are sold in packages. When the flowers and greenery have been reconditioned, they are stored in the cooler that has the proper temperature. Tropical flowers, such as protea and ginger, need to be stored in much warmer temperatures. Roses need the coolest temperature.

The wholesale florist then sells their merchandise to the local florist. This could be a florist located in a grocery store as well as an independent florist. It is important to know the wholesaler well. Some wholesalers strive for more quality flowers than do other wholesalers.

Merchandise must be shipped in cooled trucks to the local florist. Usually wholesalers have certain days that their trucks come to certain areas. Flowers are shipped quickly so that their life is extended as they can only last a short time out of water.



Processing of Flowers

When the florist's merchandise is received, it must be unpacked and sorted. Rubber bands and plastic wrap must be removed from the flowers and foliage. The stems must be recut. Remember that roses need recutting under water. Before placing the recut flowers into a clean bucket, be sure to remove the bottom one-third of the leaves. Once the leaves have been removed, then the flowers need to be placed into containers or buckets with one inch of water and preservative solution. Flowers that are in the tight bud stage need to be put into hot water (100 - 110° F) and left out of the cooler to allow the buds to open.

◆ Essential Questions: ◆
Care of Cut Flowers and Foliage

1. What is the number one factor in maintaining the life of cut flowers?
2. What is the most desired temperature for most cut flowers?
3. What is the purpose of floral preservatives?
4. What is pulsing?
5. Why are some leaves removed when storing cut flowers?
6. How is foliage used in floral arrangements?

POPULAR FLOWERS, PLANTS, AND FOLIAGE

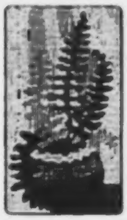
Flowers and plants are often given as gifts or used as decoration for special occasions. People may buy certain flowers or plants for various reasons. Flowers may be chosen because of their color, form, symbolism, smell, price, or lasting qualities. Flowering pot plants or foliage plants may be selected for many of the same reasons or because they are easy to grow. People also may buy a certain flowering plant because of its tradition, such as poinsettias at Christmas or Easter lilies at Easter. Florists may prefer to use certain types of foliage in floral arrangements for specific reasons. Foliage may be chosen because of its lasting qualities, shape, color, price, or abundance at a certain time.

Whatever the reasons, some flowers and plants have gained greater popularity than others. In various regions, some flowers may be more popular than others. Certain flowers and plants are more popular in a particular season. Some of the popular flowering pot plants, foliage plants, and florists' greens are listed below.

Some pot plants may last only two to three weeks. With special treatments, some can last much longer. Popular flowering pot plants include the following:

- African Violet
- Azalea
- Chrysanthemum
- Cyclamen
- Easter Lily
- Geranium
- Poinsettia

Foliage plants grow well at a customer's home if they are given adequate light, moderate temperatures, proper water, and high humidity. Popular foliage plants include the following:



- Boston Fern
- Dieffenbachia
- Dracaena
- Rubber Plant
- Schefflera

A variety of foliage greens are used in floral arrangements. Some are locally produced but many come from outdoor production sites in Oregon, Florida, California, and Puerto Rico. Floral greens usually last ten to fourteen days if they are cared for properly. Commonly used foliage greens include the following:

- Emerald Palm
- Eucalyptus
- Huckleberry
- Leather Leaf Fern
- White Pine

GENERAL CHARACTERISTICS OF FLOWERS, FLOWERING POT PLANTS, AND FLORISTS' GREENS

Flowers

Roses. Two types of roses are used in the retail floral business. These include the hybrid tea roses and the floribundas (sweetheart roses). The ***hybrid tea roses*** have large, single-stemmed flowers. ***Floribundas*** are smaller than hybrid teas and have shorter stems. The sweetheart roses last longer and are more useful in small to medium-sized arrangements.

Roses typically have short lives. Hybrid tea roses have shorter lives than the sweetheart roses. Unless a preservative is added to the water, roses last three to four days. Keeping the roses cool also prolongs their life.

Red is the most popular of the hybrid tea rose colors. Yellow is the next most popular followed by pink, white, and red-orange. The most popular sweetheart rose colors are red, light pink, yellow, and white. Many roses may be grown locally, but large suppliers are located in Colorado and California.

Carnations. ***Carnations*** are the second most popular flowers following roses. They can be classified as regular or miniature. The regular variety has one bloom per stem. This bloom is two to three inches in diameter. Miniature varieties have several smaller blooms per stem. The miniature carnations are increasing in popularity.

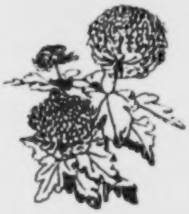
White is the most popular color of carnations. Light pink and red are the next most popular colors. Yellow carnations are used less often. The white carnation is often successfully tinted with a floral dye which makes a wide variety of colors possible.

Carnations have an excellent keeping quality. They may last seven to ten days. Most carnations are shipped from California, North and South Carolina, and Colorado.

Chrysanthemums. There are four broad categories of cut flower chrysanthemums including the following:

- standard (mums)
- pompons (sprays)
- disbuds
- fujis

Standard chrysanthemums are large, single-stemmed, and round. They average three to five inches in diameter. ***Pompon chrysanthemums*** have branched stems which form a spray of smaller flowers. Each individual flower averages one to two inches in diameter. ***Fuji chrysanthemums*** are single-stemmed flowers which have a tubular petal form that gives the flower a stringy appearance. The ***disbud chrysanthemum*** is a pompon which has had its side buds removed allowing only one flower on the stem to develop. The disbud is larger than the pompon but smaller than the standard chrysanthemum.

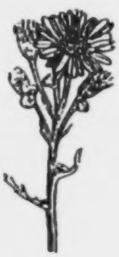


Chrysanthemums last up to three weeks if they receive proper care. A full range of colors is available all year. Most chrysanthemums are grown and shipped from Florida.

Snapdragons. ***Snapdragons*** are used in funeral and hospital designs, centerpieces, and various home arrangements. They are characterized by florets distributed along the top portion of the stem approximately eighteen to thirty inches long. They can last seven to ten days if treated properly. Snapdragons bruise easily and their shape makes them difficult to ship long distances. The flower has a spiked tip that turns upward when the flower is placed in a horizontal position. It is preferable for snapdragons to be grown within 50 to 100 miles of the wholesale florist that sells them.

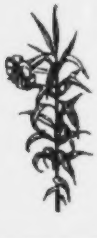
Stocks. Stocks are used most often in vase arrangements, funeral designs, and centerpieces. ***Stocks*** have irregular shaped florets on a spiked stem. Their stems range from eighteen to thirty inches long. Stocks can be found in white, yellow, pink, rose, red, lavender, and purple. White, pink, and lavender are used most often. Stocks typically last about five days. They are grown occasionally in local greenhouses, but are more commonly grown in fields in the Southwest region of the country.

Asters. Asters are used most often in home and hospital arrangements, funeral vases, and baskets. ***Asters*** are shaped somewhat like daisies and are available in a wide selection of petal forms, colors, and sizes. Colors include white, cream, rose, pink, blue, lavender, red, and purple. The most popular colors are light pink and white. Asters are mainly grown in California and in the Southwest as outdoor crops.

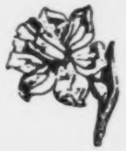


Bulb Flowers. ***Bulbs*** are underground buds shaped like a bulb that sends down roots. Flowers that are grown from bulbs are often used in funeral designs, bouquets, and home arrangements. Most are only available in the spring.

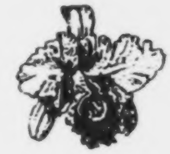
Easter lilies are bulbous flowers characterized by their large, white, trumpet-shaped flowers which measure approximately five inches in length. The



cut flower is used for church and funeral arrangements.

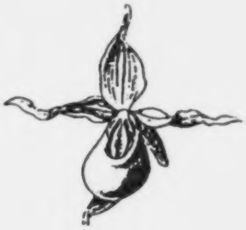


Daffodils are a cup and saucer shaped flower found in yellow or white with green foliage. The flowers measure about two inches at the flower's head. They are used primarily for vase arrangements for hospitals and homes.



Orchids. ***Orchids*** are showy flowers grown in temperate and tropical regions. There are two types of orchids classified as the cattleya and the cymbidium with the cattleya being the most popular. The ***cattleya*** blooms are large and measure eight inches in diameter. The most popular color is the purple and white orchid. The ***cymbidiums*** have smaller flowers which grow in sprays. Flowers are usually separated from the spray and used in pairs or individually.

Butterfly orchids have red flowers and are used in bridal bouquets. The ***lady-slipper orchid*** resembles a slipper. It is used in small arrangements and in corsages. Orchids are typically grown in greenhouses.



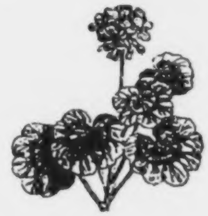
Gardenias. *Gardenias* are known for their white double flowers and fragrance. They are used often in bridal bouquets and corsages. They turn brown if touched too often; they must be handled carefully. Gardenias are sold to retailers as tailored flowers. A ***tailored flower*** is one that has already been wired and combined with foliage to eliminate extra handling. Gardenias also are grown in greenhouses.

Flowering Pot Plants

Azalea. Azaleas are typically sold between Christmas and Easter. Larger shops may sell them year round. There are many varieties of ***azaleas*** with flower sizes ranging from one to three inches in diameter. They are available in red, pink, salmon, white, and numerous combinations. Azaleas should be kept in lighted areas. The soil should be moist. All parts of this plant are toxic and potentially fatal if eaten.

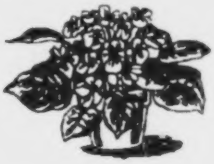
Poinsettia. ***Poinsettias***, originally from Mexico, are popular Christmas plants. ***Bracts*** are the colorful, tapered leaves which may be red, white, or pink. Poinsettias can last up to three months if given proper care. They are sensitive to freezing and sudden temperature changes, making it necessary to wrap them carefully before they leave the shop in cold weather.

This plant should be placed where it can get a few hours of sunlight each day. The plant should be kept moist with water that is room temperature. The leaves of the poinsettia are toxic and deadly if eaten.



Geranium. ***Geraniums*** have rounded flower heads that may be red, salmon, pink, or white. They are sold more often than any other potted plant. They are sold in the spring and used in flower beds, window boxes, and planters. The soil should be kept moist. This plant should be kept in full sunlight. Geraniums can last a long time.

African Violet. African violets are popular houseplants. Many varieties of this plant exist. The flowers of ***African violets*** may be large, small, double, single, and a number of shapes. Colors available include deep purple, pink, and white. They are semipermanent but can last several years if cared for properly. The plants are about one foot tall and one foot wide. The leaves are covered with soft hairs and are very brittle. They must be watered with water that is room temperature or the leaves will become spotted. The plant should be watered from the bottom and prefers high humidity. This plant should receive direct sunlight only in short segments in the winter and not at all in the spring, summer, or fall. Direct sunlight in these seasons causes the leaves to burn.



Cyclamen. Cyclamens are available from December until May. The leaves of the ***cyclamen*** are large and fleshy and the blooms look crisp. The plant stands about fifteen inches tall and twelve inches across. Cyclamens are found in colors of red, pink, rose, salmon, lavender, and white. They typically last ten days in a warm room. If this plant is placed in a bright window in temperatures near 50°F and it is properly watered, it can flower for several months. This plant should be watered when the soil gets dry and only enough to wet the soil.

Florists Greens

Florists greens or foliage are cut from greenhouses, greens farms located in Florida and Puerto Rico, and from wild plants in various parts of the country, including Hawaii. All keep well in refrigeration for about a month. The fresh foliage used in arrangements lasts longer than the flowers that are used. Fresh greens have bright colors and old greens are dull in color, have brittle leaves and stems, and only last a few days.

◆ *Essential Questions:* ◆
General Characteristics of Flowers, Flowering Pot Plants, and Florists' Greens

1. Which two types of roses are used most often in the retail floral business?
2. What are the four categories of cut flower chrysanthemums?
3. What are florists' greens?

Chapter Highlights

- Successful employment in the floral business requires adequate knowledge of the use and care of highly perishable products.
- Roses are the most popular flower. Carnations are the next most popular.
- Importers are critical to the cut flower industry in the United States since 75 percent of flowers are imported. As the cut flower industry continues to increase in America, more and more experimentation in cultivating a variety of flowers will be done.
- Mechanization combined with computers is the basis for the future floral industry.
- Three basic methods are used in the growing of plants and flowers. Some flowers are grown in greenhouses, others are grown in the fields, while still others are grown in shadehouses. The method used depends upon the climate and the type of flower grown.
- The greenhouse is extremely important to the growing of flowers especially in the winter months or in extreme temperatures. The quality of products from a greenhouse depends on the type of greenhouse and the care and attention the plants and flowers receive.
- When growing flowers in the field, the environment will determine the species chosen because not all flower types will grow in all climates.
- The number one factor in maintaining cut flower life is lowering the temperature of the flowers. For most flower species, 33-36° F is the proper temperature. It is important when flowers are first cut that the field heat is lowered as quickly as possible. Flowers are then graded by quality and packed in a 36 to 40° cooler.
- Another important factor in preserving the life of the cut flower is watering and feeding the cut flowers. Once flowers are cut they can no longer make their own food.
- Most foliage is long-lasting and requires little if any conditioning.
- The four categories of chrysanthemums are standard, pompons, disbuds, and fujis.
- Maintaining a quality product is done by increasing water absorption and movement in the stem. This keeps the flowers as fresh as possible.
- All flowers and plants absorb water through their stems. The structure of stems may vary considerably from flower to flower.

Chapter 23

Entrepreneurial Opportunities

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

12A Describe various opportunities and occupations in the floral industry.

12B Assess ownership and management structures and responsibilities.

12C Explain the impact of the economy on the floral industry.

Chapter Vocabulary

assets
balance sheet
buyer
cost analysis system
fiscal year
floral designer
floriculture
greenhouse
grower
head grower
liabilities
office personnel
profit
profit and loss statement
receiving clerk
salesperson
selling price
shipper
shipping clerk
stock
stock records
suppliers
supply and demand
training manual
wholesaler

Floriculture is the growing of plants and flowers to be cut and sold. The floral industry is a billion-dollar industry providing thousands of jobs for workers. There are many entrepreneurial opportunities in the floral industry. Some workers must be responsible for growing the flowers and plants, others must market and distribute them, while still others must sell them to the public and prepare floral arrangements. All of these people are important to the success of the floral industry.

GROWERS

A ***grower*** is a person or business that grows flowers and plants. There are currently more than 14,000 flower growing establishments located in various parts of the United States. Some growers specialize in growing one type of flower while others may produce a wide range of flowers.

Flowers are produced year-round in many parts of the United States. Some flowers are grown in greenhouses, while others are grown in fields or shadehouses. Each technique has its advantages and disadvantages regarding growing requirements and economic returns. Flower growers use the method that best serves the climate and the type of flower to be grown. Factors that determine the best method for growing flowers include the cultural needs of the flower, temperature ranges and rainfall amounts of the area, and preferred time of year to harvest.

The largest flower growing businesses are located in California. Other important flower producing states include Colorado, Hawaii, and Florida. Many commercial growers include small, family owned operations. Labor accounts for 30 to 40 percent of the grower's total production costs. This is because hand labor is required for planting, processing, harvesting, and packaging plants and flowers.

Most growers have a head grower. In smaller establishments, the owner may also be the head grower. In most cases, the head grower is a skilled employee. The ***head grower*** is responsible for managing the greenhouse, supervising employees, and maintaining production schedules. She or he must have broad knowledge of growing quality flowers. Many head growers are college graduates with degrees in floriculture or ornamental horticulture. They usually have experience in flower growing and greenhouse management. Some head growers may have started as greenhouse helpers and then worked their way up to head grower.

The growing conditions in flower production are scientifically controlled. The soil and plants must be carefully nurtured to produce quality flowers. The principal activity in the growing or producing division of the floral business is centered in the greenhouse. The ***greenhouse*** is a building in which the temperature and humidity can be regulated for the growth of plants out of season. Most of the plants and cut flowers grown in the United States are grown in greenhouses. The growers' responsibilities include the following:

- selecting seeds, fertilizers, and soils
- planting
- transplanting
- regulating temperatures
- cleaning pots and beds
- watering
- spraying
- cutting

There are several ways fresh cut flowers are transported from the grower to retail floral shops. Some growers sell their flowers to a shipper. A ***shipper*** is a business that transports flowers from the grower to the supplier or wholesaler. For example, a shipper may be responsible for transporting flowers from a grower in Holland to a wholesaler in the United States. Growers may become shippers if they buy flowers from other growers to sell to wholesalers or retailers. Occasionally, growers may sell directly to retailers, thus bypassing the shipper and wholesaler altogether.

Growers in different regions of the United States use different means of distribution. Shippers are used more commonly on the West Coast. The traditional wholesaler is used most often on the East Coast. Colorado growers ship their flowers to suppliers who grade and label the flowers. These flowers are then taken to the shipper or wholesaler. There has been an increase in volume purchases by retailers directly from the growers. Grocery stores with floral departments buy more than half of their cut flowers directly from growers.

◆ Essential Questions: ◆
Growers

1. What factors determine the best method for growing flowers?
2. Why are labor costs so high for growers?
3. How are cut flowers transported from the grower to the retail florist?

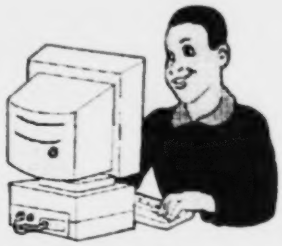
WHOLESALERS

The wholesaler is the link between growers and retailers. The ***wholesaler*** stocks the products of many different growers and manufacturers and offers a wide selection of flowers, plants, and supplies for sale to the retail flower shop. The wholesaler offers a wide selection of flowers, floral supplies, and gift items to the retailer. Technology has enabled wholesalers to get flowers to retailers with great speed and minimal loss. Flowers and plants can be shipped to retailers quickly to satisfy demands and maintain lower prices.

A wholesaler usually carries a complete line of cut flowers. The wholesaler also may have pot plants and retail shop supplies. Some may specialize in certain items, such as roses, greens, or other supplies.

Management

The manager of a wholesale establishment attempts to keep the best local stock and then supplement this stock with flowers and other items from other sources. In order to be successful, the manager must work well with growers. Close cooperation is necessary between the grower and wholesale manager to ensure that crops are produced at the right times. The manager must know the market demands for flowers. He or she should know the kinds and amounts of flowers available from the growers.



In addition to purchasing, the manager also may be in charge of the overall operation of the business. He or she may hire, train, and schedule employees and conduct the business' financial transactions.

Other Employment Opportunities in the Wholesale Floral Industry

Buyers. The flower buyers buy flowers from growers and suppliers. ***Suppliers*** are businesses that buy flowers from growers and sell them to wholesalers or retailers. Buyers must know the current market and the needs of the retailers. A person in this position must be able to work closely with both growers and retailers.

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Shipping and Receiving Clerks. A ***receiving clerk*** takes initial care of the flowers and plants the wholesaler receives. Flowers may be grown locally and regionally. Flowers also may be imported from South America, Israel, Holland, and other countries. Flowers from other parts of the United States also may be shipped to the wholesaler.

Carnations may be shipped from Colorado, California, or New England. Roses may come from the East Coast, California, Texas, or other parts of the Midwest. Chrysanthemums and gladioli frequently come from Florida. Orchids come from growers in various part of the country and as far away as Australia. These products arrive by refrigerated trucks or by air if they travel from great distances. Items received must be carefully conditioned, readied for retail sale, and properly stored. This is a busy job because merchandise may arrive hourly.

A ***shipping clerk*** is a person who handles the merchandise after it has been sold to retailers. Flowers, gifts, and other items must be packed promptly and adequately to arrive at the retailer's shop in good condition as soon as possible. Flowers require special handling. In most cases, they must be shipped the fastest possible way. The shipping clerk must know the mail, air, and bus schedules. Many wholesalers have their own delivery trucks. The shipping clerk may be in charge of the delivery employees and delivery schedules.

Sales Personnel. A ***salesperson*** is a person who sells flowers to retail florists. Many retailers order flowers and plants by phone. Others make their selections at the wholesaler's place of business. The number of sales personnel working for a wholesale business depends on the amount of business the wholesaler has. The sales personnel must have knowledge of flowers, trends, and the floral industry to appropriately advise customers.

Office Personnel. ***Office personnel*** are those who work in the office to keep records and do the paperwork for the business. They should keep accurate, detailed records of all business transactions. They need basic clerical skills and knowledge of the floral industry. The forms and records used are similar to those used in other businesses.

◆ ***Essential Questions: Wholesalers*** ◆

1. What are the responsibilities of the manager of a wholesale floral establishment?
2. What are the responsibilities of the receiving clerk?

THE RETAIL FLORAL INDUSTRY

The greatest independence in the floral industry is found in the retail flower shop where flowers and plants are sold to the public. The retail florist and the shop's staff are concerned with marketing, designing, and caring for the various flowers and plants the shop sells. The physical characteristics of the retail shop are also a concern. It takes a well organized staff and sufficient management to

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make the business run smoothly and profitably.

The majority of retail floral shops in the United States are small. These small shops have one to ten employees. Each shop is unique in that no two retail florists operate in the same manner. Many retail florists operate a small greenhouse associated with the shop. This practice is less common today because small retailers are able to receive larger quantities and varieties of flowers quickly and conveniently from wholesalers. This allows florists the opportunity for creative and artistic expression in both traditional designs and designs containing unusual combinations of flowers.

The retail florist is both a businessperson and an artist. A retailer in the floral industry must have basic business management skills and the talent and skills to creative flower arrangements. Florists must have the knowledge of buying the right kind and amount of items that will sell. Cut flowers and potted plants are perishable. This makes it a difficult task to keep an adequate supply available for various holiday seasons and daily sales without overstocking. A person interested in this field should have a love and appreciation of flowers as well as a natural ability to design arrangements. A person must have the following qualities:

- willingness to work long hours at times
- the ability to meet people
- salesmanship skills
- business abilities

Owning and Managing a Retail Floral Business

There are approximately 50,000 retail floral shops in the United States today compared to approximately 22,500 in 1970. The majority of the shops are small, family operated businesses in which the owner is the manager. In small shops, all employees must assume various roles including buyer, receiving or shipping clerk, designer, and delivery person. Larger stores may require more specialized jobs and may have several designers, delivery personnel, and salespeople.

The manager of a retail floral shop has duties similar to those of managers of other businesses. Accurate records of expenses and sales must be kept so that items may be adequately priced to be competitive and profitable. A manager also must do the following:

- oversee the development of window displays
- maintain positive public relations and quality control
- make advertising decisions
- supervise all related aspects of a retail business
- coordinate work schedules and employee responsibilities

The manager must be knowledgeable in all areas of the business in order to train and supervise employees. For employees to be successful, they must be satisfied with their jobs and with other employees. Employee turnover should be kept to a minimum. Satisfied employees usually stay with their employer. This reduces the amount of time and expense used for finding and training new employees.

The manager is primarily responsible for hiring both regular and extra employees. The manager should be able to recognize potential in an applicant and should be able to train a new employee. There should be a ***training***

manual describing the policies and procedures of the various jobs. The manager may be responsible for compiling this manual and updating it as needed.

The manager also should know how to merchandise products. The shop's advertising is the manager's responsibility. The manager usually determines how much to spend on advertising, when to advertise, which media to use, and how to word the advertisement. The store arrangement is another job responsibility that should be done attractively and efficiently. Store arrangement and window displays are considered part of the store's advertisement.

The day-to-day operation of a floral business can be challenging. Each aspect of the business must be well planned and well managed for the operation to run smoothly. In many retail shops, the owner also acts as the manager. The owner may perform many of the duties in the floral shop. Larger shops may hire a manager to oversee the various management functions of the business. These functions may include keeping records, managing personnel, buying and pricing merchandise, considering financial obligations, advertising, and furnishing the floral shop.

Management of a retail floral establishment can be a complicated task. Efficiency in the business means producing desired results with a minimum of expense, effort, and waste. Efficiency is needed in both the designing aspect of the business as well as in every department of the shop. Time is an important element in the retail floral business. The loss or misuse of time can result in loss of business, money, and prestige. As labor costs rise, an employer looks for ways to decrease overhead and increase output from every employee.

The success of a floral business depends upon competent management, competitive prices, adequate capital, and good service. The main cause of business failure is due to management's inexperience or incompetence.

Record Keeping

One of the most useful tools in the floral business is a complete and accurate set of records. It is one of the most necessary phases of business management. Records are needed for determining true income of the business, reducing tax liabilities, and maintaining better management of the business. Without records, a business of any type operates without an organized direction.

Records should be kept on an annual basis. These annual records should be based on the company's fiscal year. A ***fiscal year*** is any twelve-month period between settlements of financial accounts. This period does not have to be from January through December. A fiscal year may be from October to September or from July to June. The fiscal year is selected based on the seasonal pattern of the business. The end of a fiscal year should be between peak periods of sales. The information received from the previous fiscal year can be used as a basis for future purchases and sales decisions.

The system of record keeping used should be designed to give the florist results of the business operations clearly and quickly. Each month the florist should receive a financial statement including a profit and loss statement and a balance sheet. A ***profit and loss statement*** shows how much money the business earned or lost in a given month by detailing the business' expenses and income.

The ***balance sheet*** gives an accurate account of the business' assets and liabilities. ***Assets*** include resources of a business, such as accounts receivable, cash, inventory, equipment, real estate, and other items. ***Liabilities*** are the debts of a business including accounts payable. The balance sheet must be accurate for it to be of maximum benefit in making management decisions.

Many florists use a ***cost analysis system***. A cost analysis system is a list of all items of cost and expense. A ledger sheet can be used for certain items making comparison very easy. If any expense is too high for one month, it can be corrected for the next month.

Stock is a store's supply of merchandise. Stock records are not difficult to keep and can provide useful information for the buyer. The information provided can be used not only for purchasing but also for planning. ***Stock records*** can provide the necessary information regarding the quantity and kinds of flowers, plants, and other products sold or not sold during a given period of time.

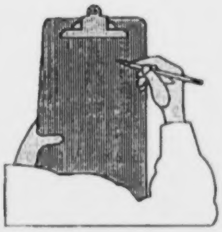
Stock records are helpful for determining the kinds of flowers, plants, and accessories that have sold best during a particular season. The rate of turnover for different types of flowers and plants can be determined. A florist also can determine if too much of a given item was purchased. The items and grades that account for most sales also can be determined with the stock records.

Personnel Management

Personnel management in a retail floral shop can be a difficult task. An employee is expected to perform many tasks and have a thorough knowledge of flowers and plants. Employees in a floral shop usually will be divided into groups according to the job they are to perform. This can be difficult in small shops where one person may sell, answer the phone, and design arrangements. In larger shops, each employee has a specific job and title.

Hiring Employees. Potential employees should have a love and appreciation for the industry. Each employee should be hired to become a specialist in some phase of the business. The owner or manager is responsible for training the employees. Once trained, the employees should be expected to accept detailed responsibilities enabling the manager or owner to devote time to other aspects of the business. The business should be organized so that each employee knows his or her duties and can perform them with little or no supervision.

Profitable businesses are usually the ones with employees who work well together. The work should be done quickly and efficiently. Managers should promote this atmosphere by showing respect and appreciation to employees. Decisions with employees should be fair and consistent. Adequate wages should be provided. Wage increases are only possible when the shop's profits increase. When the manager shares increased profits with employees, it gives employees confidence and lets them know they are doing their jobs well.



Scheduling Employees. Good working conditions should be provided including a clean environment, adequate lighting, and proper organization. Equal workloads are often difficult to maintain due to the occasional long working hours needed to complete holiday and special orders. Managers should distribute the inconvenient hours and workloads equally among employees. Extra help may be necessary when work exceeds the amount regular employees can adequately manage.

Personnel, including regular and extra employees, should be considered first when planning for a holiday or special event. Too many extra or part-time employees can be expensive. The minimum number of employees should be hired to adequately fill all orders and maintain efficiency.

Extra employees should be hired a few days before the holiday rush so there is time to train, retrain, or give special instructions. Extra employees should receive information including the number of hours they will be expected to work, the wages they will be paid, the amount of time for lunch and breaks, and the proper dress code. The store's stock should be reviewed along with price lists and other specific instructions including information about answering the phone, completing order forms, and designing arrangements.

Buying Merchandise

A florist needs to have special knowledge about the merchandise carried in the shop. Handling cut-flower stock, foliage, and pot plants properly is essential to the overall business operation.

Fertilizer!

Buying perishable merchandise can be one of the most difficult processes in the retail floral business, but it is also the most important. The ***buyer*** is the person who purchases the merchandise to be sold by the store. This person is usually the manager or owner of the business.

Technological advances in growing, harvesting, and post-harvest maintenance play an important part in the buying process. A buyer must stay current on new techniques and processes to make appropriate choices and acknowledge good prices.

The buyer should be aware of reliable sources of supplies and of the condition and quality of merchandise available. She or he also should be familiar with the market and prices and the type and amount of merchandise the store's customers will purchase. To be well informed, the buyer must visit the wholesale markets and take an active role in the operation of the business. Figure 23.1 gives some purchasing rules for the retail florist.

What to Buy. Increasing stock turnover rates is an important factor in increasing store profits. More profits can be made if stock has a faster turnover rate. To increase stock turnover, a buyer must be knowledgeable of the current rate.

Purchasing Rules for the Retail Florist

- Purchases should be made frequently to avoid shortages, to get maximum turnover, and to have a fresh stock.
- When demand falls for a given type of merchandise, smaller quantities should be purchased to avoid losses, markdowns, and having money tied up in inventories.
- Purchases should be made to protect the shop's competitive position.
- Merchandise should be purchased based on its quality, past performance, and consumer demand.

⇨ *Figure 23.1*

The quantity of merchandise a buyer should buy is directly related to the rate of turnover. Rapid turnover results in the greatest increase of profits. Rapid turnover in a retail floral shop would be at least once a week. Accurate records of the store's past sales are an important aid in determining quantities to buy for the current year. With this in mind, buyers who take advantage of cash discounts receive the best bargains.

Knowledge of customer preferences is another essential aspect of the business. Stock should be purchased based on quality, past performance, and consumer demand. Deciding what to sell is often difficult. The most profitable items may not be the type of merchandise the florist likes, or they may not be the easiest or least expensive to purchase.

Where to Buy. A retail store buys from wholesalers and occasionally directly from a grower. Purchases should be confined to a minimum number of businesses in most cases. However, contacts with several wholesalers and suppliers are essential to get the best price and service. It is good to have contacts and alternatives to choose in case a supplier goes out of business or cannot supply a certain item. Suppliers often give regular customers credit extensions, quantity discounts, and preferences when stock is scarce.

Low prices are important when buying merchandise. A buyer must try to obtain not only low prices and favorable terms but also adequate service and satisfactory quality. When a retail florist buys from a wholesaler, he or she buys services as well as merchandise. Wholesalers can be good sources for technical information and should be consulted regularly.

Pricing Merchandise

The ***selling price*** refers to the price for which goods are sold. The selling price should be high enough to cover the cost of the merchandise, operating expenses, and the desired profit. Operating expenses include all amounts paid out for expenses that occur in the operation of the business, such as overhead, payroll, taxes, and other expenses, to keep the business in operation.

The economics of supply and demand determine the price of merchandise. When supplies of merchandise are greater than consumer demand, the price generally decreases. When consumer demand is greater than the supplies available, prices generally increase.

Retail prices are typically adjusted in response to wholesale prices unless the change in wholesale price is temporary or minor. Pricing merchandise by a straight markup of two or three times the wholesale price is used exclusively by some florists. This is not always an accurate representation of the true cost of the merchandise.

Profit refers to the amount of money that remains after all costs have been deducted from the income of the business or from the selling price of an item. Retailers make the highest profits by marking up their merchandise as high as possible without decreasing their sales volume. This does not mean there will be a substantial profit on all merchandise sold.

The percentage markup on cost is an easy way to determine the selling price of merchandise. Flowers and plants may require another means of determining the selling price. One way to estimate the selling price of these items is to divide the merchandise into different groups according to various characteristics. Characteristics include average rate of turnover, cost of storage, and perishability. Each characteristic affects the cost of handling these groups of merchandise. Merchandise requiring special storage and care also should have a higher markup.

Occasionally, florists consider the prices offered by their competition when pricing their own merchandise. This process can produce accurate pricing if the quality of merchandise and service is equal. Often, however, one florist may sell better quality merchandise, making it unnecessary to equal the prices of another florist.

Standard markups should be established for each class in order to estimate and establish selling price. Regardless of the method used, accurate records of expenses and sales must be kept in order to price items in a competitive and profitable way.

Surveys indicate that typical markups used by retail florists vary from 50 to 200 percent. The price of the merchandise should not be based only on a set markup. A markup of twice the cost is standard for nonperishable items. Three times the cost is commonly used for perishable items due to the extra care required. The costs of refrigeration, special

Guidelines for Creating a Fixed Price Design

☐ Plan, figure, and record the content of the design before beginning any work.

☐ Determine and charge the proper design labor charge on each design.

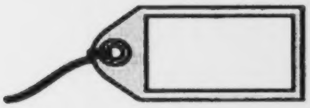
☐ Count and charge to the customer all materials used in the design.

If the selling price of a design is $35.00, it should be created as follows:

$12.00	Labor (real labor cost)
6.00	Vase - cost was $3.00
2.00	Foam filler and moss - cost was $1.00
12.00	Carnations 1 dozen - cost was .40 each
	.40 x 12 = $6.00 x 2 = $12.00
+ 3.00	Filler material - cost was $1.50
$35.00	

⇨ ***Figure 23.2***

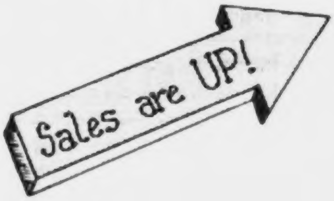
tools, and preservatives used must be considered when figuring the selling price of the merchandise.



Most arrangements are priced before they are designed. The designer then works from the established price. The labor charge is deducted from the selling price. The remaining amount determines the amount and type of merchandise to be used in the design. The guidelines for creating an arrangement in this manner are listed in Figure 23.2.

It is important to remember that these are only guidelines for pricing merchandise. The selling price should be high enough to cover the cost of the merchandise, the operating expenses, and the desired profit without decreasing the sales volume. Other considerations include the average rate of turnover, cost of storage, and perishability of an item. Each characteristic affects the cost of handling merchandise.

Simple economics of ***supply and demand*** often determine the selling price of merchandise. When supplies are greater than customer demands, the price of the merchandise usually decreases. When customer demand is greater than the supplies of merchandise available, the prices typically increase.


Sales are UP!

Retail prices are often adjusted in response to wholesale prices unless the change is temporary. Many florists begin with a standard base markup price. They adjust this price according to market conditions and the amount they predict that their customers will pay. Florists occasionally consider the prices offered by other florists in their area. This can be beneficial for setting standard prices if the other florists handle the same quality of merchandise. If one florist handles better quality merchandise, this process will produce inaccurate pricing.

When a florist is hired to create floral designs for a party, wedding, or other occasion, he or she should keep accurate records of labor, materials, flowers, and other expenses so that the customer is charged correctly. A florist may spend much time planning, consulting, and preparing for the occasion. The florist must charge the customer for this time. Guidelines regarding the pricing and markup of materials for party work are listed in Figure 23.3.

Many florists find it difficult to determine appropriate charges for labor, delivery, and other expenses involved in operating a retail floral shop. Accurate records must be kept in order to determine the profits the store makes. The markups may need to be adjusted or reductions may need to be made in some aspect of the business. Regardless of the methods used for pricing merchandise, accurate records of expenses and sales must be kept in order to price items in a way that is competitive and profitable.

Employment Opportunities in the Retail Floral Business

Employees in a small floral shop may have several responsibilities including selling, answering the phone, and designing. Employees in larger shops have specific jobs and titles, but may occasionally take on other job responsibilities.

Personal neatness is an important characteristic of a worker in the floral business. An employee in this field has close contact with the public and represents the retail shop. The duties of the job often require an employee to work in churches, funeral homes, office buildings, and other places where clothing and appearance should be neat.

Floral Designers. The ***floral designer*** is an important part of the retail floral shop. A floral designer designs and fashions floral pieces and decorations. A designer makes bouquets and corsages, plans floral settings, and cares for plants and flowers. Experience and skill helps a designer advance to a position with higher pay and more responsibility. A designer can frequently advance to manager.

Few flowers are sold until they have been arranged. A good designer must understand the techniques of flower arranging, enjoy working with flowers, and have artistic ability. The floral designer usually holds a full-time position. However, opportunities are often available for part-time or temporary employment. Many shops need extra help during busy seasons such as Christmas, Valentine's Day, or Mother's Day.

A floral designer also must have an understanding and interest in advising customers on the use of flowers. Designers frequently work with brides as wedding consultants and may coordinate decorations at special events. Floral designers also may work with funeral homes. These services are part of the floral business as well as the designer's job.

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Pricing for Party Work

- Mark up perishable materials, such as flowers, 3 1/2 times.
- Mark up containers and other accessories 2 times.
- Charge a 35 to 50 percent design fee (labor fee) based on the total selling price of the materials used.
- Charge as the rental fee about 10 to 20 percent of the retail selling price of the merchandise rented.
- Charge a setup fee (cost of moving and arranging items) that is profitable.

⇨ *Figure 23.3*

Previous experience in the floral industry, especially in a floral shop, is needed for a person to become a designer. The designer must know the fundamentals of the elements and principles of design. Imagination and originality are necessary to create new designs and avoid repetition. Work should be performed quickly and efficiently to meet deadlines and preserve the margin of profit on each order.

Buyers. The buyer is generally one person who buys flowers and supplies for a floral shop. It is preferable for the manager to act as the buyer, but occasionally the owner serves as the buyer. The buyer should be familiar with the current wholesale and retail markets and with current prices to make economical purchases.

During slow seasons, wholesalers often offer merchandise in bulk or in large quantities at reduced prices. The buyer must be familiar with the shop's clientele before making these purchases. The buyer must know when the material can be sold and how much can be sold at one time. The buyer always should purchase fresh and properly grown or well-constructed merchandise.

Sales Personnel. A salesperson must have an initiative for selling. A salesperson must do more than take an order. For effective selling, he or she must know prices, names of merchandise and types of designs, delivery schedules, and general store policies. The salesperson is often the only connection a customer has with the shop.

The salesperson must be dependable and reliable. He or she should give efficient service to customers and use time wisely. A pleasing personality and appearance make a positive impression with a customer. A salesperson should be courteous and diplomatic with customers to encourage repeat business. One dissatisfied customer can easily lead to more.

Office Personnel. The bookkeeper in a retail floral business has responsibilities similar to those in other retail establishments. A bookkeeper must be knowledgeable of the basics of bookkeeping and accounting. A bookkeeper should file accurately and post entries correctly. He or she also should keep ledger sheets current, make daily banking transactions, and maintain honesty.

The bookkeeper is responsible for completing the periodic profit and loss statements for the business. She or he must send out statements on time each month. The bookkeeper also may be expected to answer the telephone, take orders, or transfer calls to the appropriate person.

Delivery Personnel. Delivery personnel are the people who deliver arrangements to customers. They are very important to the retail florist. The delivery person is often the main contact between the customer and the store. Competence, reliability, and neatness are necessary.

Honesty is another characteristic needed in a delivery person. This person may collect CODs (cash on delivery) or delinquent accounts for the business. The store needs an employee who will collect and deliver the money as instructed.

A delivery person needs to have thorough knowledge of the city's streets to make efficient use of time and energy. He or she should be a good driver who obeys all traffic laws. A person in this position also may be in charge of keeping the truck(s) or van(s) clean and filled with gas.

◆ ***Essential Questions:*** ◆
The Retail Floral Industry

1. What characteristics and skills does the retail florist need?
2. What are the responsibilities associated with managing a retail floral shop?
3. Why is accurate record keeping important to the retail florist?
4. Why are stock records important?
5. Why is the stock turnover rate important to the retail florist?
6. What factors affect the selling price of merchandise?
7. What characteristics and skills does a floral designer need?
8. Why are delivery personnel so important to the retail floral business?

THE IMPACT OF THE ECONOMY ON THE FLORAL INDUSTRY

As discussed earlier in this chapter, prices are based on the simple economics of supply and demand. Since the demand for flowers increases during holidays, the prices of the popular flowers increase. Prices for flowers also may fluctuate daily or hourly. The prices of flowers that are extremely perishable may decrease the longer the wholesaler keeps them. The prices of some flowers remain fairly stable. Price fluctuations can make a retailer's decisions about flower purchases

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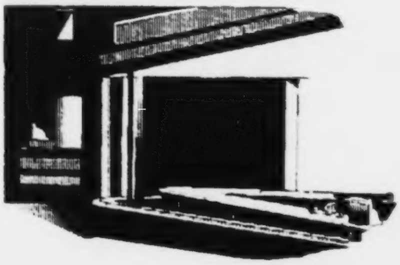
difficult. It also makes the flowers difficult to price for resale.

Adverse weather conditions affect some flower crops and cause prices to increase. If weather damages a crop of flowers, the wholesale price goes up and causes the retail price to be higher than usual. Because of the high prices, people may choose not to purchase these flowers. This can hurt the retail florist's sales and profits.

FREEZE

A flower shop located in a community centered around one large industry could be in danger. If the industry fails, the local economy will be affected. The health of the local economy affects the amount of money people have to spend. People in a city with a struggling economy will have fewer miscellaneous funds to spend on flowers. A person wanting to start a floral business should consider the status of the city's economy. Other considerations should be the average income of the city, the population of the city, and the number of flower shops in the community. A person also should consider whether or not the people in the city spend money on flowers. Much research should be done before a floral shop should be located in a city. Research should determine a suitable city and a good location within the city. The location of a floral shop can be a major factor in the success of the business.



Small floral businesses do not have the space or the funds to carry a wide variety of floral items and accessories. Large stores or chain stores that are able to buy in large quantities and sell at lower prices may win customers who wish to buy simple, less expensive items and arrangements. Because larger businesses may monopolize this section of the market, a small business must concentrate on attracting a different type of customer. A florist should try to attract customers who wish to buy more elaborate arrangements and use the services of the florist for weddings and other special events. A florist should know the type of customer he or she is trying to attract and use advertising and marketing techniques to reach this type of customer.

◆ Essential Questions: ◆
The Impact of the Economy on the Floral Industry

1. What factors affect price fluctuations of flowers?
2. How does the economy affect a floral business?

Chapter Highlights

- The largest flower growing businesses are located in California. Other important flower producing states include Colorado, Hawaii, and Florida.
- Factors that determine the best method for growing flowers include the cultural needs of the flower, temperature ranges and rainfall amounts of the area, and preferred time of year to harvest.
- The wholesaler stocks the products of many different growers and manufacturers and offers a wide selection of flowers, plants, and supplies for sale to the retail flower shop.
- A receiving clerk takes initial care of the flowers and plants the wholesaler receives. Flowers may be grown locally and regionally. Floral shops also may receive imported flowers.
- The retail florist and the shop's staff are concerned with marketing, designing, and caring for the various flowers and plants the shop sells.
- Accurate records of expenses and sales must be kept so that items may be adequately priced to be competitive and profitable.
- A floral designer designs and fashions floral pieces and decorations.
- For effective selling, a salesperson must know prices, names of merchandise and types of designs, delivery schedules, and general store policies.
- Stock records can provide the necessary information regarding the quantity and kinds of flowers, plants, and other products sold or not sold during a given period of time.
- The buyer should be aware of reliable sources of supplies and of the condition and quality of merchandise available. She or he also should be familiar with the market and prices and the type and amount of merchandise the store's customers will purchase.
- The selling price of merchandise should be high enough to cover the cost of the merchandise, operating expenses, and the desired profit.

Chapter 24

Marketing

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

8A Discuss business promotion objectives in the retail housing and furnishings industry.
8B Analyze techniques using sales promotion, advertising, and displays.
8C Describe the use of technology and other forms of advertising media in housing and furnishings business promotions.
8D Explain how business promotion reflects the environment in which a person lives.
8E Predict how societal trends and changing demographics influence housing and furnishings business promotions.

Chapter Vocabulary

- advertising
- catalog houses
- city magazines
- classified advertising
- collateral materials
- company magazines
- cooperative advertising
- dealer displays
- direct marketing advertising
- display advertising
- E-commerce
- industrial advertising
- Internet advertising
- local advertising
- marketing
- marquee
- medium
- national advertising
- network advertisements
- outdoor advertising
- personal selling
- preview parties
- professional advertising
- promotion
- public relations
- push money
- retail advertising
- Robinson-Pattman Act
- sales promotions
- seasonal sales
- specialty advertising
- spots
- target groups
- trade advertising
- trade deals
- transit advertising
- yellow pages advertising

MARKETING STRATEGIES

Marketing refers to the process involved in moving goods or services from the producer to the consumer. It combines product, price, place, and promotion. Marketing incorporates determining who the store's customers are and what their needs and wants are. It involves purchasing products to satisfy those needs and wants and getting the merchandise into the customer's possession. It also involves executing a sales idea, pricing the merchandise, and promoting it. The primary objective of marketing is to help the store make a profit while providing customers with goods or services that satisfy their needs and wants.

Retail Marketing Strategies

Marketing is an ongoing project of any retail business. The process involves analysis, planning, execution, reviewing, and more planning. Experience and judgement play an important role in any retail marketing program. Customer habits, tastes, and needs as well as the merchandise available, vary from location to location and from year to year. The decision to use any or all marketing techniques requires experience and judgement. In order to be successful, the store's marketing program must be constantly reevaluated.

GRAND OPENING
SALE

Promotion involves the actions of purposefully causing interest to be created in a person, place, or thing to further the growth and acceptance of the item through special activities. It can be achieved through personal selling, advertising, public relations, collateral materials, store services, pricing, and sales promotions. For the promotion to be successful, the item being promoted should gain something, such as an increase in sales. Customers also usually gain something, such as savings on a product or service. Marketing tools such as these are used to achieve the store's marketing objectives as suggested in Figure 22.1.

Marketing Tools

- Attract new customers.
- Introduce new merchandise.
- Induce current customers to purchase more.
- Compete with other stores.
- Increase sales in off-seasons.
- Reduce current inventory.

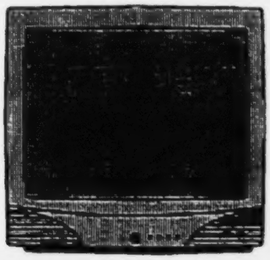
⇨ ***Figure 22.1***

Personal selling involves the selling of merchandise or services by one person to another. Merchandise is sold in retail stores by sales clerks, a sales associate, or a designer. Selling that is not personal includes mail order selling in which the advertising alone must make the sale.

Advertising is the action of favorably presenting goods or services for sale to the public using paid announcements publicized or broadcasted by the media. This form of marketing is called mass selling or nonpersonal selling. Its primary purpose is to inform, persuade, and remind customers of particular products and services. Advertising is used to encourage customers to purchase merchandise.

Public relations is communication designed to influence opinion and promote a favorable image, goodwill, or prestige for a company, organization, or individual. The purpose of advertising and public relations is to influence the public. A favorable public opinion is very important in the furnishings industry. Public relations activities of design and furnishings businesses include placing news articles and feature stories in the local media, arranging speaking engagements, and making donations to local charities.

Store service promotions cover nonmedia advertising activities. Media promotions refer to the advertisements paid for by the store to be placed in media, such as television, radio, and newspapers. Examples of store service promotions include providing free product samples, interior design services, gift wrapping, delivery services, and window and store displays.



Store services also include methods of payment that may be used by the customer. Most retail stores accept cash and checks, and many stores accept a variety of credit cards. They also may offer thirty-day or ninety-day accounts, assistance with bank financing, and some may offer their own long-term financing plan.

Pricing merchandise is another important aspect of the retail marketing strategy. Many factors contribute to the price of products or services. It is important to remember that a retailer may sell his or her merchandise at any price even though the manufacturer suggests a retail price. The selling price of the merchandise must include consideration for store overhead, salaries, and other business expenses.

Collateral materials are the accessory advertisement materials used to achieve marketing objectives. Examples include booklets, catalogs, exhibits, brochures, or display cases containing such items as furniture cleaning supplies, carpet samples, miniblinds, or china.

Sales promotions are direct inducements that offer extra incentives in an effort to accelerate the movement of a particular product from the retailer to the consumer. Sales promotions are used to help produce and increase sales. They may be referred to as supplemental to advertising and personal selling.

Sales promotions are used to maximize a store's sales volume. Typically, this refers to a sale that motivates consumers who would not ordinarily be motivated by other advertising efforts. It can also motivate customers to select a specific brand of item even though all brands carried by the store are considered relatively equal. Sales promotions usually generate sales that would not otherwise be achieved.

Today consumers are exposed to many promotions and advertising techniques that make it increasingly difficult to produce marketing techniques that make a strong enough impact to get their attention. Examples of promotional techniques include samples, coupons, online advertising and promotions, rebates, refunds, trade allowances, contests, sweepstakes-type contests, and seasonal sales.

Seasonal sales are sales that occur during certain seasons or holidays each year. These sales are used most often in the retail furnishings industry. Those most commonly used include the following:

- end-of-the-year sales
- winter and summer clearances
- store anniversary sales
- New Year's Day sales
- Mother's Day sales
- Father's Day sales
- Fourth of July sales
- Labor Day sales

FLAG-WAVING
SAVINGS

Off-season sales include special promotions from the manufacturers to the retailers that are passed along to consumers. Special purchases on sofas, leather goods, or bedroom groups are examples of typical off-season sales merchandise.

Manufacturers' Marketing Strategies

Manufacturers also use marketing and sales promotion techniques with retailers or dealers by offering them incentives to purchase, stock, and display their products. Examples include dealer displays, trade deals, cooperative advertising, advertising materials, push money, and meetings or special previews. Many of the advertising and sales promotion techniques offered by manufacturers today go unnoticed by the consumer and often by the salesperson because the techniques appear in various trade journals or are considered private correspondence between the retail owner and the manufacturer. It is important to note that any special offers from manufacturers to retailers must comply with the ***Robinson-Pattman Act***. This act prohibits any price discrimination that would lessen competition or create a monopoly between dealers.

Dealer displays are displays, special racks, or counter stands provided to the retailer for use in displaying the manufacturer's merchandise. The displays are designed to hold and sell the featured merchandise. Dealer displays can also induce the retailer to stock more of the product if the display is attractive and serves its purpose.

Trade deals refer to special purchase options offered to the retailer for limited time periods on certain merchandise. For example, a certain group of sofas may be offered to retailers at a 25 percent savings during a particular month of the year or the retailer may be given a special discount for purchasing $5,000 worth of leather goods during a certain time period. Any special offers or trade deals must comply with the Robinson-Pattman Act which states that the trade deal must be offered to all dealers on an equal basis.

Cooperative advertising refers to advertising expenses shared by the retailer and manufacturer. Manufacturers usually require advertising plans before they will share the costs of the advertisement. The manufacturer may repay the retailer as much as 50 percent of the cost of an ad, and occasionally the manufacturer will cover the full amount. The same terms must be extended to all dealers as stated under the Robinson-Pattman Act.

Many manufacturers provide advertising materials. Advertising materials include sample radio commercials, newspaper ads, catalogs, flyers, and brochures to be distributed to the retailer's customers. Appliance manufacturers typically require that their

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retailers supply the materials to the customers before the retailer can qualify for cooperative advertising.

Push money is money given to retail salespeople by many manufacturers or distributors as an incentive to push the sale of a particular product or product line. For each bottle of furniture polish sold by a furniture salesperson, the manufacturer may give the salesperson fifty cents to a dollar depending on the specific product. A sofa manufacturer may offer the salesperson a 10 percent bonus on the price of each sofa sold from a particular line or group.

New products, sales promotion programs, or advertising campaigns are often introduced to retailers at special meetings or ***preview parties***. These meetings and parties are often held prior to markets in various regions of the country. The retailer is given an opportunity to meet and visit with other retailers from various geographical areas of the country who sell the same merchandise. The manufacturer's sales representatives also are available to answer questions and demonstrate new merchandise.

◆ Essential Questions: ◆
Marketing Strategies

1. What is the primary objective of marketing?
2. What are six marketing objectives for retail furnishings businesses?
3. What are the purposes of sales promotions?
4. What is the purpose of push money?

ADVERTISING

The purpose of advertising is to inform, educate, and persuade current or potential customers to purchase an item. Companies develop marketing strategies to increase their sales and profits by using a combination of product, price, place, and promotion. Advertising falls into the category of promotion. It is a communication process, a marketing process, and an economic or social process that is directed to groups of people instead of individuals. Most advertising reaches the consumer through the Internet and World Wide Web, newspapers, television, radio, billboards (transit advertising), and the mail. More subtle methods of advertising reach the consumer through the marketing of store and window displays, services offered by the store, methods of payment, and the salesperson.

History

The history of advertising in the United States began when the *Boston Newsletter* printed the first newspaper advertisements in the American colonies. Benjamin Franklin is credited with making the advertisements more legible by using large headlines and surrounding ads with white space that formed a border. Illustrated drawings were quite common until the photographer was able to accomplish the job with little effort and definite believability.

The Industrial Revolution began in about 1760 allowing companies to mass produce products. Many people needed the products but could not get them in their area. This allowed locally produced goods to be sold outside of the local area. The advertising and marketing of these goods made this possible especially in the frontier markets of the West and the growing industrial areas of the East.

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Weekly and monthly magazines were introduced in the mid 1800s. The advertising industry was started with magazines. Magazine advertising has been credited with promoting the national advertising and sale of products.

Advertising made its way into magazines in the mid 1800s when the owner of a failing magazine offered space to advertisers who would pay his costs and give him the profits. This concept caught on and spread to other magazines. As the number of magazines in publication began to grow, competition drove the magazines to begin aiming at specific ***target groups*** or groups that had something in common (new mothers, teenagers, or business people). Advertisers were more willing to advertise in magazines with the same target groups that would use their products, making their efforts more profitable. As this concept grew, it allowed manufacturers to reach mass populations and stimulate mass consumption of their goods. Magazines later began to let their readers pay for more and more of the costs of production.

During the nineteenth century, the population grew rapidly, providing an increasingly larger market for manufacturers. There also was an increase in the number of people that could read as the literacy rate rose as high as 90 percent in the late 1800s. This created a larger audience that could read and understand advertisements.

The development of the nationwide railroad system, the telegraph, telephone, typewriter, and phonograph allowed people to communicate as never before. Manufacturers were constantly increasing their product lines to offer the public more and more. Competition grew between manufacturers, which prompted them to increase their advertising. Advertising grew with the country, helping to provide and establish the country's growing marketing system.

Unsubstantiated advertising claims tainted the advertising industry in the early 1900s. False and misleading advertising led to widespread resentment by consumers during this time. Health devices and various medicines underwent the most severe attacks, resulting in advertising regulations by both the advertising industry and the government. The Federal Trade Commission (FTC) is a federal agency whose duty is to investigate unfair methods of competition in business. The agency also investigates corrupt advertising and prosecutes those who are charged with these practices. The FTC works to stop false advertising.

WIN WITH OUR
DEALS

The salesmanship era came about after World War II. The level of competition increased through large, colorful advertisements in magazines, testimonials by movie stars, and increased marketing techniques. The Great Depression began in 1929 and greatly reduced advertising expenditures and the dollar amount consumers had available to spend on goods and services. False and misleading advertising continued to grow during this period as manufacturers competed heavily for what little money consumers had to spend. This resulted in further government regulations on advertising. Cutbacks and new regulations prompted the industry to plan advertising that would produce good results for the amount of money spent. During this period of consumers' resistance to advertising and their lack of available money, the industry turned to research to determine customers' needs, desires, financial situations, and types of advertising that appealed to them most. These studies evolved into what is known today as the research industry.

Radio began in the 1920s, adding a new dimension to advertising and marketing. Radio became the primary means of mass communication. National advertisers used radio extensively because it was the easiest means of reaching large, captive audiences. It is still one of the primary sources of local and national advertising.

Television was first broadcast publicly in 1941 but did not gain extensive popularity until after the end of World War II. Television was a threat to all other media with its ability to deliver advertising to mass audiences. Television advertising grew rapidly during this time and increased even more after color television was introduced in 1955.

Postwar prosperity and consumer demands required manufacturers to produce consumer products that offered greater luxury, convenience, and style. Advertising specialists and businesses took advantage of the postwar prosperity through new and unique advertising and marketing strategies that stressed their products' social acceptance, luxury, style, and symbol of success.

The increasing popularity of personal computers and Internet use in the 1990s opened a whole new means for reaching consumers with advertising messages. The number of consumers using the Internet and World Wide Web as information and communication tools has surpassed all projections that were made in the early 90s.

According to a study by *Messaging Online*, there were 435 million active E-mail (electronic mail) accounts worldwide in late 1999. This trend motivated 70 percent of companies that conduct e-commerce to use electronic mail as part of their marketing strategies. These companies use E-mail (direct mail) to promote their e-commerce Web sites. According to a survey by Pitney Bowes of companies using e-commerce, these companies felt that electronic mail was their best source for developing long-term customer relationships. Due to these factors, e-commerce companies expect to increase their budgets for direct mail via the Internet by 25 percent by 2003.

E-commerce is an abbreviation for electronic commerce and refers to the business of buying and selling goods and services on the Internet, including the World Wide Web and electronic mail (E-mail). Housing, furnishings, and equipment business operations use Web sites as marketing tools to generate sales revenue. Many operations use their Web sites for direct product advertising and use discounts and other promotions to draw new customers to their sites. Due to its speed and efficiency, it is expected that the use of electronic communication tools will continue to affect the way in which the world of business operates in the future.

This brief history allows individuals to see how various forms of advertising and marketing reflect the world and society in which a person lives. Advances in technology affect people's lives in many ways just as changes in society affect people. Advertising and other marketing techniques always will be available to keep people informed and to take advantage of those changes.

Classification of Advertising Functions

Advertising can be accomplished through a wide variety of media. The one chosen depends on the business, the product sold, local customs, and expectations. The six basic categories of advertising are national advertising, retail advertising, direct marketing advertising, trade advertising, industrial advertising, and professional advertising.

National advertising also is known as brand name advertising. The emphasis is placed on a specific product instead of a place where the product can be purchased. The price is typically not mentioned in this type of advertising. National advertising is commonly found in magazines, on radio and television, and occasionally in newspapers.

In local advertising, which is produced and used locally, the price always is mentioned because its purpose is to get customers into particular stores. ***Local advertising*** appears in newspapers, on radio and television, and occasionally in regional editions of national magazines.

Direct marketing advertising also is referred to as direct mail advertising. It asks customers to purchase products by electronic mail, letter, coupon, or phone. The product is then delivered by mail or by some other carrier.

Internet advertising refers to advertising through electronic means, either by Web site, E-mail, or banner advertising on search engine home pages. Retailers and wholesalers are experiencing success in using Internet advertising as a marketing strategy. So much so, that advertisers and marketers are no longer asking if they should advertise online, but rather how much of their advertising budgets they should devote to online exposure.

ON-LINE
SERVICES
AHEAD

Trade advertising is directed toward retailers, wholesalers, and brokers. This also may be referred to as business to business advertising. Retailers, wholesalers, and brokers are the manufacturer's customers. This advertising stresses the benefits of the product and the potential profits that can be made as a result of stocking and selling a particular item.

Industrial advertising is directed toward manufacturers. They purchase raw materials and machines for use in their manufacturing processes. This advertising is placed in trade magazines and is sent by direct mail advertising methods.

Professional advertising is directed to physicians, architects, and other professionals who help direct or recommend various products to others. This type of advertising stresses the benefits of the product rather than the profits to be made. The ads appear in professional and trade magazines, through actual samples of the product, and through direct mail.

◆ Essential Questions: ◆ Advertising

1. How does advertising reach consumers?
2. What are the functions of the Federal Trade Commission?
3. Why is research important to the advertising industry?
4. How have the Internet and the World Wide Web affected advertising?

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CLASSIFICATION OF ADVERTISING MEDIA

Advertising is typically classified by the medium used to deliver the message. Medium is singular for media or what is commonly known as mass media. An advertising medium is a unit of communication. ***Medium*** is any paid means that is used to present an idea, a product, or an advertisement to a target group.

Direct Marketing

Direct marketing has become a universal advertising medium. It is produced by amateurs as well as highly skilled professionals, and it is used by every type of advertiser imaginable. E-commerce companies and mail-order businesses use direct mail most often. Others that use direct marketing include magazine publishers, retailers, book clubs, insurance companies, and various fund raising organizations.

The Direct Mail Marketing Association, Inc. in New York represents individuals and companies that produce direct mail advertising. They offer many benefits to members including a resource library called the DMA Information Center. The center contains portfolios of direct mail campaigns in various categories, networking information, seminars, educational materials, and various publications. The DMA Information Center also subscribes to more than 100 periodicals that are geared to the direct marketing field. The files include more than 1,200 collections of articles, speeches, seminar notes, and research reports that pertain to the direct marketing field.

Direct marketing combines the characteristics of both national and retail advertising. It reaches customers primarily through direct mail, magazines, and catalogs, but radio and television are also used. The orders are often placed through E-mail, Web sites, or 800 numbers that can be used twenty-four hours a day, seven days a week and can be charged to credit cards.

Advertisers can act as their own publishers in direct mail advertising. The advertising materials are produced through the company's own publications so that they do not have to rent or buy space in existing publications. The publications are sent directly to their own prospects.

A message is typically sent along with the materials in electronic, catalog, letter, or packet form. The message can be made to look like a regular letter and personalized. These communications can have individuals' names typed in along with handwritten notes and underlined passages to make them look more personalized. If the postal service is used, regular postage stamps are preferred over postage meter printings to achieve a better image.

Due to the heavy postage increases, forms of direct mail advertising have developed into more than the mailing of advertisements. Bill enclosures and package inserts have increased. A bill enclosure is advertising literature that is enclosed with a bill but not directed toward the collection of the bill. A package insert is advertising literature that is included in a product shipment. It can be for a different product or for refills and replacements for the product ordered.

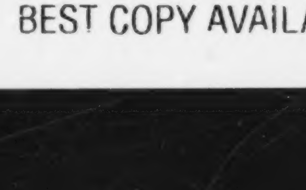
Direct mail advertising success often can be determined by the mailing list used. These lists can be maintained by the organization or purchased or leased from one of the numerous list brokers in the United States. List brokers compile their lists from various organizations, schools, and local directories. Many companies sell their lists to other companies.

Direct marketing is appealing to customers for several reasons. Most people enjoy getting personal communications. The other contributing factor to the success of direct mail is that many people either do not have time to go shopping or they do not like shopping. Direct mail allows the customer to shop whenever it is convenient.

Catalogs are booklets that describe products that may be ordered. Catalogs from catalog houses have gained in popularity as the mail-order business has grown. ***Catalog houses*** sell general merchandise including furnishings and accessories. They offer retail furnishings stores competition on various merchandise. Along with original items from established companies that are sold at the suggested retail price, many items that resemble expensive furnishings, rugs, and accessories are also sold through catalog companies at a substantially lower price than the original items found in retail stores.

The catalog houses' success can be attributed to dual-income families who have less time to spend leisurely shopping for clothes and other items. Most catalogs allow a person to place an order on an 800 number and to pay for the purchase by credit card.

Internet advertising. Internet advertising has a variety of forms. It can be conducted directly to consumers through personal E-mail accounts, through company Web sites, and through banner advertising mostly found on search engine home pages. Banner ads seem to be extremely popular with advertisers accounting for more than half of Internet advertising sold in late 1999. Advertisers using the Internet include those marketing consumer products and services, financial services, computer-related services, and business services.



Internet advertising has not only benefited e-commerce companies as a direct mail-type of contact with consumers, but also has become the fastest and most efficient means for fulfilling and confirming customer orders. In a matter of minutes, consumers can find out if products are out-of-stock or receive a printed confirmation of their order and estimated shipping time.

INTERNET
AHEAD

Web advertising is sold on a "cost per thousand impressions" basis. An impression occurs when a visitor to a Web site views a page where an ad is displayed. These "impressions" are tabulated with measurement software and the advertisers billed for the total number of impressions. The actual process of accounting and billing for impressions is quite complex and numerous checks and balances are utilized to ensure advertisers of the accuracy of the number of impressions counted and billed. Some Web advertising billing is based on percentage of sales. Advertising agencies sell this type of advertising.

Displays

Window and store displays are two of the largest advertising tools available to the retail furnishings business. Good displays sell merchandise just like good advertisements. Both advertisements and displays should attract attention and make customers want to learn more about both the merchandise and the services the store has to offer. All stores can have displays, even if they cannot afford other forms of advertising.

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Magazines

Magazines fulfill a variety of purposes. Some exist to make money, some serve members of organizations, some are for public relations, and some are produced to spread ideas. More than 1,000 general consumer magazines are typically available on newsstands. Approximately 2,000 trade, professional journals, or technical magazines are rarely found on newsstands. In addition to consumer and trade magazines, more than 10,000 ***company magazines*** (those produced for and by company employees) are published. Almost all magazines carry some type of advertising.

Few consumer magazines have a circulation that reaches 1 million or more. Most have circulation rates of less than 1 million.

The biggest advantage that magazines have over other forms of media is that they can pinpoint an audience. The person creating the ad must understand the interest group or audience in order for the ad to mean something to the audience. Magazines tend to devote a lower percentage of their space to advertising than newspapers, but the average life of an ad in a magazine is longer than one on television or in a newspaper.

Magazines have clearly defined guidelines regarding advertising that will be accepted. Many insist on testing the various products before accepting their advertisements. Occasionally, a magazine may accept an advertisement with reluctance and run an editorial disclaimer denying approval of it. Other forms of media also have guidelines and standards regarding their ads. Magazines have greater varieties of restrictions and adhere to them more rigidly than other media due to their tendency to cater to specific, selected audiences.

Magazines are available in a variety of formats but those in similar fields tend to have the same page size. This allows advertisers who produce an ad for one magazine to use the same ad for another magazine. These ads can still be enlarged or reduced to fit a particular space.

National advertisers make the most advantage of magazines. Local advertisers make some use of them but not to the extent of the national advertisers. Some national magazines offer regional editions allowing local advertisers to advertise in them. ***City magazines*** are magazines that contain information about a specific city. They have become one of the fastest growing segments of the magazine industry. These were primarily established to compete with newspapers.

Yellow pages advertising is in the category of magazine advertising. The use of the yellow paper for directories began in 1883 in Cheyenne, Wyoming, because a printer ran out of white paper. They are not meant to create awareness or demand as other sources of media, but they are meant to direct consumers to a particular business when they are ready to buy. The term yellow pages and the traditional walking fingers are no longer protected by a copyright or patent in the United States. This allows anyone to use them. This makes it confusing to retailers because they are often unsure of which directory to advertise in.

MAGAZINE
DAILY NEWS

Newspaper

Newspaper advertisements give the retailer mass coverage. Approximately 65 percent of all adults read at least one newspaper daily. The charges for various size ads and their requirements are available to a retailer on a rate card. These guidelines are set up by the management of the newspaper who may refuse to print ads that violate the rules stated on the rate card.

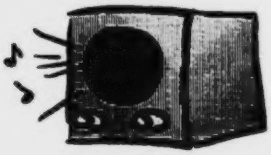
Local advertising is divided into two categories that are referred to as classified and display. ***Classified advertising*** in most newspapers is merely column after column of small print. Real estate and automobile dealers typically use classified ads. ***Display advertising*** requires designing which is often done by the newspaper staff. Small papers may have an ad manager or salesperson who designs, while larger newspapers often have a full staff of designers and may or may not add an additional fee for their services.

Retail advertising is typically used for selling merchandise and often includes merchandise that has been marked down. Retail advertising should both sell merchandise as well as educate the consumer. It should clearly identify the store name and focus in on potential customers. There should be one element in the ad that is emphasized. Other elements in the ad must be organized, and benefits of shopping at a particular store should be stressed.

As stated earlier in this chapter, cooperative advertising is advertising that is paid in part or in full by the manufacturer. The manufacturer may have restrictions placed on the ad. The retail store must adhere to these restrictions. The requirements usually state that the ad must incorporate certain items and be a particular size.

Radio

After television was introduced in the 1940s, it became the advertising medium most sought after. Radio advertising suffered somewhat until the mid to late 1970s when television became overcrowded with commercials and costs became too expensive for many advertisers. Radio is now a popular medium for local advertising. Radio's peek listening time is in the morning and late afternoon. This time is also known as "drive time."



There are many different formats of radio including adult contemporary, oldies, and current hit radio. Each format targets a different audience. Like television, radio advertisers select programming for their advertising based on audience ratings. This makes it easier for advertisers to determine the stations to advertise on and the style of ads to produce. Advertisers may produce different spots for the same product to be used for various formats.

Radio advertisements can consist of talk from an announcer (with or without background sounds), a jingle, an interview, or an exchange of conversation. Commercials that are effective in the morning are not necessarily effective in the afternoon or evening. It is often necessary to have several ads about the same merchandise. The advertiser must consider what the potential customer will be doing when listening to the ad.

As in other forms of advertising, a single point or message must be made with the radio commercial. A thirty-second radio spot can accommodate approximately seventy words.

Television

The three types of television advertisements are network, spot, and local. ***Network advertisements*** are shown during national shows. Spot advertisements are prepared nationally then shipped to various stations for local showing. Local advertisements are those that are prepared and shown locally. Advertisements are called commercials or ***spots***. From audience ratings, local and national advertisers determine during which programs their advertisements should be shown. Audience ratings are provided by national and local rating services that measure viewing habits. Television advertising is successful because consumers view "real" people actually using the advertised product.

Commercial spots may be in sixty, thirty, twenty, fifteen, or ten-second lengths. The majority of ads are thirty seconds in length. Commercials can be produced on film, with videotape, or live. A live commercial is one that is shown on television at the actual time that the events are taking place. Very few commercials are shown live.

Film is the most versatile medium for commercials and also can be the most expensive. Film can be used in the studio or on location and is usually 35-mm film. Occasionally 16-mm film is used, but it can create a look that is less polished.

Videotape is appealing because it requires no processing. Preview tapes can be seen immediately and new takes or shots can be taken if necessary. The newer equipment allows the tape to be edited frame by frame and offers many special effects. Many commercials shot on film are edited on videotape.

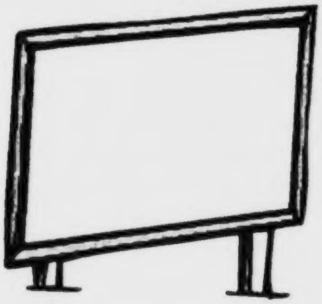
Other Advertising Media

Specialty advertising uses articles of merchandise as the advertising medium. The company name or logo is placed on an article to be a constant reminder to the user. The merchandise is usually given away to customers and potential customers. Items that can be used include key chains, T-shirts, pens or pencils, cleaning samples, and calendars. The target audience is very specific.

Transit advertising can range from the store logo to a painting in a wide range of colors on the side of the company truck or other vehicle. Studies have found that trucks with logos or other visual designs are perceived by the public as less threatening than trucks that have no logo or design. A study by the American Trucking Association foundation showed that a local delivery vehicle averages 16 million visual impressions per year.

Out-of-home advertising is also known as ***outdoor advertising***, which is advertising seen outdoors. The billboard industry or outdoor advertising industry lends itself best as reminder advertising. It is designed to supplement a store's advertising in other media. Standard size posters or panels are known as billboards. Many stores may use the billboard method of advertising exclusively. A ***marquee*** is a board outside a business on which letters and words can be changed easily to advertise products or services. They are relatively inexpensive and can be kept current easily.

Marketing involves selling merchandise to increase store profits while satisfying customer wants and needs. Numerous marketing strategies are used by both the retailer and



the manufacturer to sell products. Ideas and strategies vary from retailer to retailer and from manufacturer to manufacturer.

◆ Essential Questions: ◆
Classification of Advertising Media

1. What is Internet advertising?
2. How do companies benefit from their Internet advertising?
3. What are the three types of television advertisements?
4. How does television advertising influence consumers?

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Chapter Highlights

- Marketing refers to the process involved in moving goods or services from the producer to the consumer. Companies develop marketing strategies to increase their sales and profits.

- Customer habits, tastes, and needs as well as merchandise available, will vary from location to location and from year to year. All of this should be considered when developing and evaluating a store's marketing program.

- Sales promotions are direct inducements that offer extra incentives in an effort to accelerate the movement of a particular product from the retailer to the consumer.

- Manufacturers use sales promotion techniques with retailers or dealers by offering them incentives to purchase, stock, and display their products.

- The six basic categories of advertising are national advertising, retail advertising, direct marketing advertising, trade advertising, industrial advertising, and professional advertising. The one selected depends on the business, the product, and local customs and expectations.

- An advertising medium is a unit of communication. It is any paid means that is used to present an idea, a product, or an advertisement to a target group.

- E-commerce is an abbreviation for electronic commerce and refers to the business of buying and selling goods and services on the Internet, including the World Wide Web and electronic mail (E-mail).

- Internet advertising has a variety of forms. It can be conducted directly to consumers through personal E-mail accounts, through company Web sites, and through banner advertising mostly found on search engine home pages. Advertisers using the Internet include those marketing consumer products and services, financial services, computer-related services, and business services.

- Retail advertising in newspapers is typically used for selling merchandise and often includes merchandise that has been marked down. It should both sell merchandise as well as educate the consumer.

- Direct marketing combines the characteristics of both national and retail advertising. It reaches customers primarily through direct mail, magazines, and catalogs, but radio and television are also used. The orders are often placed through E-mail, Web sites, or 800 numbers that can be used twenty-four hours a day, seven days a week and can be charged to credit cards.

Chapter 25

Customer Relations

Chapter Focus

The following Essential Knowledge and Skills are discussed in this chapter:

9A Analyze the importance of good customer relations in building and maintaining a business.

9B Demonstrate techniques for maintaining good client relationships.

9C Describe conflict resolution techniques when dealing with customer complaints.

Chapter Vocabulary

cheerfulness
comparison shopper
consumer
courtesy
customer
empathy
follower
friendliness
impulse buyer
innovative customer
tact

THE IMPORTANCE OF CUSTOMER RELATIONS

Maintaining positive relationships with customers is a vital part of any successful business. Employees in retail settings interact with customers on a daily basis. A ***customer*** is a person who purchases goods or services from a retailer. A ***consumer*** is the person who uses the goods or services. It is interesting to note that the customer and consumer may be one person or two different people. It is the job of the retailer to satisfy both the customer and the consumer in order to encourage repeat business and to reduce the need for merchandise returns.

With the variety of services and businesses available, customers often have a choice of where they shop or acquire services. In many cases, the factor that may attract customers to a business is the customer service provided. Employees who deal with customers may find customer relations to be both satisfying and challenging. At times, customers make demands that seem unreasonable or accusations that are unfair. However, in a customer/business relationship, it is important for an employee to remember that serving the customer is an important function. Learning to control emotions and deal with difficult situations in a calm, controlled manner shows maturity and good judgment.

Types of Customers

Occasionally while working in the front of the shop or store, an interior design assistant or sales assistant is asked to greet customers. If a designer is not available to help a customer who seems to need service, the assistant should greet the person and offer assistance. It is not an assistant's responsibility to make a sale or to offer decorating opinions. The assistant should show the customer the merchandise that interests him or her and notify the designer of the customer's needs. If a customer is not assisted, he or she may feel neglected and leave the store.

Each customer is unique. However, shoppers can be categorized into groups in order to analyze their motives and behaviors while shopping. The ***innovative customer*** is one who buys a new item in order to be the first to use it. This customer enjoys being a trendsetter. A salesperson may be able to motivate sales by showing the innovative customer new merchandise available while providing information about current trends.

A ***comparison shopper*** is a customer who visits a store to gain information about merchandise. The customer may check prices, quality of merchandise, product availability, brand names, purchase options, and other buying information. The comparison shopper does not often make purchases on his or her first visit to a store. A comparison shopper's business can be encouraged by good selling techniques, by offering accurate information, and by providing quality goods and service.

An ***impulse buyer*** is a customer who makes a buying decision rapidly without much thought. Most often, buyers purchase relatively inexpensive items on impulse. Placement of impulse items in a convenient location for customer appeal is often done to encourage impulse buying.

A ***follower*** is a customer who generally chooses only products with well-known reputations. Followers tend to require complete product satisfaction prior to purchase. They may be influenced to purchase an item when they learn that a respected person or close friend has bought the same product.

Customer Expectations

Regardless of the reason customers seek the services of a professional interior designer or shop in a particular furnishings store, all customers expect attention to their needs, value for their money, and quality service throughout their design service and purchasing experience. If customer expectations are not met, the client usually seeks advice from another firm and makes their furnishings purchases elsewhere. In that case, the firm not only loses a customer and potential sales, but also risks losing other customers through word-of-mouth and damage to the firm's reputation.

Pleasing Customers

The goodwill of customers is based on their confidence in the quality of service provided and their satisfaction with their new furnishings. To gain and retain the goodwill of customers, it is necessary to develop a favorable image and reputation. That image and reputation are built with attractive, relaxed atmospheres and superior service.

A genuine interest in customers and a willingness to please them are basic for good customer relations. Employees express interest in their clients through sharing of solutions for their design and furnishings problems, and through positive attitude, good manners, and quality service. Courtesy is essential.

◆ Essential Questions: ◆
The Importance of Customer Relations

1. What is the difference between a customer and a consumer?
2. What is the one factor that often attracts customers to a business?
3. What happens if customers' expectations are not met?
4. How does the comparison shopper differ from the impulse buyer?
5. How do employees develop goodwill with their customers?

TECHNIQUES FOR MAINTAINING CLIENT RELATIONSHIPS

First Impressions

First impressions the customer forms of the designer are often lasting ones. Designers that do not make good first impressions may not have a chance to sell their abilities as designers. Factors that lead to good first impressions include the following:

- a well-groomed appearance
- appropriate clothing
- good health
- good posture
- a cheerful attitude
- the ability to speak effectively

- a sincere interest in people
- a respectful and courteous manner

Designers usually should not to give professional advice too readily. If possible, first meetings should be held at the designer's office rather than in the client's home or office. This gives the designer an opportunity to become better acquainted with a client's tastes and preferences.

Empathy is action of being aware of, being sensitive to, and understanding another person's thoughts, feelings, and experiences. Designers must try to discover what a customer is feeling and thinking. It is said that a person's home is his or her castle. Designers must make the client feel that he or she believes this. The designer must treat the client's home as if it were a castle no matter how small it is or how unlike it is to the designer's tastes and preferences.

Designers must give the impression that the client is right. The desires of a client are not always best. Designers must be able to help a client analyze a situation without making him or her feel inferior. Interior design assistants or sales assistants may accompany a designer to a client's home. An interior design assistant or sales assistant must apply the same factors that lead to good first impressions.

Basic rules of behavior are important for an assistant to know so that conduct will reflect the professionalism of the business and the interior designer. These rules of behavior

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include the following:

- Do not offer any comments or suggestions that are in direct conflict to advice or suggestions the designer has given the client. Suggestions and recommendations to customers regarding design decisions and selections should be left up to the interior designer.
- Do not make any remarks to suggest that a product is inferior or faulty.
- Know and follow company policies regarding returns or exchanges.
- Show interest in the job.

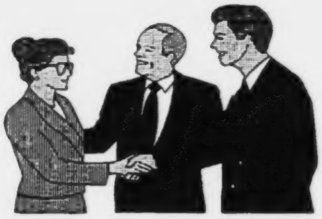
Home furnishings selection is a personal matter. People have individual tastes and are easily offended by unfavorable comments on their selections.

Positive Interpersonal Skills

Positive interpersonal skills are important in maintaining good customer relations. Traits, such as friendliness, cheerfulness, courtesy, and tact, are important in dealing with customers. Positive traits cannot be developed just by reading about them. It is necessary to practice using these traits in order for them to become a part of everyday behavior. It is necessary to display a genuine interest in people in order to influence them.

Friendliness involves displaying an attitude that is pleasant and warm. Customers enjoy entering a business where employees greet them in a friendly, natural manner. The friendliness of employees creates a relaxed atmosphere in which customers feel comfortable. Customers are more likely to make a purchase from a friendly salesperson. Friendly people establish a sense of trust with customers. Friendliness also helps establish a pleasant atmosphere by creating trust and cooperation among co-workers.

Cheerfulness involves being the kind of person others like to be around. People who are sullen and moody and complain frequently are not the types of people others enjoy. Cheerful people tend to make others cheerful. Sharing a smile with others is one of the most important rules of making friends and influencing people. A sense of humor is closely related to cheerfulness. A person with a good sense of humor has the ability to see the less serious side of issues and makes the best of difficult situations. It is important to maintain a good sense of humor in a job situation without becoming crude, rude, or inappropriately loud. A cheerful employee will respond by saying "sure" or "I would be glad to" when asked to help with unexpected work rather than grumbling or complaining. Remaining cheerful and staying busy improves the attitudes of other people.



Courtesy involves the consistent use of good manners. A courteous person shows respect and consideration for others while showing a willingness to cooperate. Customers feel comfortable and appreciated when treated in a courteous manner by employees. "Please" and "thank you" are examples of courteous phrases. Discourteous habits, such as interrupting people before they finish speaking or responding to another person with a rude remark, should be avoided.

Tact is the ability to say and do the right thing at the right time. Employees can become more tactful by considering the customer's point of view. As an employee, think about how a customer likes to be treated and put those ideas into practice with customers. Avoid gossiping or visiting loudly with other employees while customers are waiting to be assisted. Avoid criticizing others or sharing confidential information. Never

Short Courses in Human Relations

The six most important words — "I admit I made a mistake."

The five most important words — "You did a good job."

The four most important words — "What is your opinion?"

The three most important words — "If you please."

The two most important words — "Thank you."

The one most important word — "You"

The least important word — "I"

Figure 23.1

repeat the criticism and complaints of others. In a difficult situation, try to say something kind or pleasant rather than responding negatively.

Tact is very important when dealing with customers directly. For instance, an employee assisting a person who is trying on shoes that are too small should tactfully suggest trying another size by saying something like, "Let me bring you that shoe in another size. We have found that this line tends to run unusually small." Considering the customer's feelings always helps to maintain positive relations. Figure 23.1 lists some important points to remember about human relations.

Successful Relationships with Clients

Some of the most obvious ways the public learns about the services of an interior designer or firm are from advertisements in stores, on television or radio, or in newspapers. A client also may select a designer on the basis of a recommendation from a satisfied client. Factors that can result in a successful relationship between the designer and client include the following:

- The designer should be professional, tactful, and attentive to the personal likes and dislikes of the customer.
- The designer should have both artistic ability and knowledge of the industry.
- The designer should make clear to the customer the full range of services available. The client will feel more confident about the final result if he or she is aware of the steps involved in the interior design and furnishing process.
- The designer should reach an agreement with the client about fees. The designer wants clients to feel that they have gotten adequate services for the money spent.
- The designer should have a clear under standing of the work to be done and the money to be spent. The designer gets this information from conversations with the client.
- The designer should be able to organize suggestions quickly and easily.

When working on residential projects, interior designers should learn about the family in order to plan an interior to meet their needs. Depending on the interior space project (whether the family room or children's bedrooms), the designer must know something about the family members, such as ages, interests, personalities, ambitions, and color preferences. The designer also must know how much money the family plans to spend on furnishing their home or the particular design project. The more the designer knows about the family, the easier the job will be.

Family members usually want to make decisions regarding their own rooms or a particular space in the home. Having an assortment of appropriate items that fit within the budget helps both the designer and the client.

When working on commercial (nonresidential) projects, it is also important for the designer to establish a working relationship with the client. The designer should interview the client to determine his or her needs, style and color preferences, and wishes for the space to be furnished.

◆ ***Essential Questions:*** ◆
Techniques for Maintaining Client Relationships

1. Why are first impressions so important?
2. Why is empathy important for individuals working in the interior design field?
3. What are three factors that help to promote successful relationships with clients?
4. Why is learning about client's personal preferences important in both residential and nonresidential design projects?

CUSTOMER COMPLAINTS

Employees may have to handle complaints from customers either in person or by telephone. It is usually easy to use a pleasant voice when a customer is courteous. However, when a customer is upset and angry, the employee must handle the situation carefully. Knowledge and experience in using conflict resolution techniques can be very helpful in handling unhappy clients. It is important that the employee maintain a positive and pleasant composure. In the design and furnishings industry, it is best to let a designer handle complaints with clients, especially if a client is really upset. When dealing with a customer complaint, the following techniques may help to solve the problem and satisfy the customer:

- Remember that the customer is not personally attacking you.
- Allow the customer to tell his or her story without being interrupted.
- Listen intently and use a sympathetic tone of voice to reassure the customer.

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- Let the customer know that you are concerned by the way you speak and by your choice of words.
- Assure the customer of the firm's desire to solve the problem and suggest possible alternatives or contact a person who is authorized to deal with the problem further.
- Remain relaxed and courteous. Do not let the customer upset you.
- Remember that without customers, a business would not exist. View a customer complaint as an opportunity to prove to the customer that the business really cares about people and wishes to fulfill customer needs.

◆ *Essential Questions:* ◆
Customer Complaints

1. Why is experience in using conflict resolution techniques important?
2. Why is it important for the interior designer to handle complaints with his or her own clients?
3. What are three conflict resolution techniques that help to resolve customer complaints in a positive manner?

Chapter Highlights

- It is interesting to note that the customer and consumer may be one person or two different people. It is the job of the retailer to satisfy both the customer and the consumer in order to encourage repeat business and to reduce the need for merchandise returns.

- Regardless of the reason customers seek the services of a professional interior designer or shop in a particular furnishings store, all customers expect attention to their needs, value for their money, and quality service throughout their design service and purchasing experience.

- The goodwill of customers is based on their confidence in the quality of service provided and their satisfaction with their new furnishings. To gain and retain the goodwill of customers, it is necessary to develop a favorable image and reputation.

- A genuine interest in customers and a willingness to please them are basic for good customer relations. Employees express interest in their clients through sharing of solutions for their design and furnishings problems, and through positive attitude, good manners, and quality service.

- Empathy is action of being aware of, being sensitive to, and understanding another person's thoughts, feelings, and experiences. Designers must try to discover what a customer is feeling and thinking.

- Positive interpersonal skills are important in maintaining good customer relations. Traits, such as friendliness, cheerfulness, courtesy, and tact, are important in dealing with customers.

- The friendliness of employees creates a relaxed atmosphere in which customers feel comfortable. Customers are more likely to make a purchase from a friendly salesperson. Friendly people establish a sense of trust with customers. Friendliness also helps establish a pleasant atmosphere by creating trust and cooperation among coworkers.

- Courtesy involves the consistent use of good manners. A courteous person shows respect and consideration for others while showing a willingness to cooperate.

- Tact is the ability to say and do the right thing at the right time. Employees can become more tactful by considering the customer's point of view. As an employee, think about how a customer likes to be treated and put those ideas into practice with customers.

- Family members usually want to make decisions regarding their own rooms or a particular space in the home. Having an assortment of appropriate items that fit within the budget helps both the designer and the client.

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THE CURRICULUM CENTER
FOR FAMILY AND CONSUMER SCIENCES

HOUSING, FURNISHINGS, AND EQUIPMENT
PRODUCTION, MANAGEMENT, AND SERVICES
STUDENT ACTIVITY BOOK

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FAMILY AND CONSUMER SCIENCES EDUCATION • TEXAS EDUCATION AGENCY • AUSTIN, TEXAS

Housing, Furnishings, and Equipment Production, Management and Services

Student Activity Book

Developed and disseminated by:
The Curriculum Center for Family and Consumer Sciences
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Preface

Many exciting and rewarding career opportunities exist in the housing, furnishings, and equipment industries. Examples include careers related to the building industry; interior design; retail furnishings; upholstery and refinishing; paint, wallpaper, and floor covering; equipment and appliances; the floral industry; and multiple entrepreneurial opportunities. Employment opportunities in this field are available at a variety of levels ranging from beginning jobs that are open to the inexperienced, to high-level professional and management positions that require extensive experience and training.

Publications in the *Housing, Furnishings, and Equipment Production, Management, and Services* series provide information about various segments of this occupational area; some employment situations will fit the descriptions provided more closely than others. Therefore, hands-on experience and use of other resource materials are important components of the total training experiences needed by students interested in pursuing career opportunities related to housing, furnishings, and equipment.

This Student Activity Book complements the other documents in the *Housing, Furnishings, and Equipment Production, Management, and Services* set of materials. The instructional materials designed for this occupational area include the following three components:

- The *Reference Book* provides information needed by employees in the housing, furnishings, and equipment occupational areas. Each chapter begins with a "Chapter Focus" (the Texas Essential Knowledge and Skills addressed in that chapter) and a "Chapter Vocabulary." Terms listed as vocabulary may be located quickly by using the index. Within the text, italicized, bold-faced vocabulary terms are included with definitions or explanations. Illustrations of equipment and procedures used in the industry today aid in student learning. Throughout the chapter, "Essential Questions" boxes pose important questions to students about the material they have read. At the end of each chapter, the content is summarized in "Chapter Highlights."

- The *Curriculum Guide* provides information needed by teachers. Each chapter consists of a variety of instructional strategies for use in the classroom. Instructional strategies should be selected based on the local instructional arrangement, the level of students' abilities and experience, job situations, and time available. Teaching Aids are included for use in implementing the instructional strategies.

- The *Student Activity Book* provides a variety of pencil-and paper activities designed to reinforce the concepts presented in the Reference Book. Activities are designed to correlate with essential information presented in each chapter.

The *Housing, Furnishings, and Equipment Production, Management, and Services* documents are part of an occupational education series which focuses on a broad range of employment opportunities. Each title in the series addresses one occupational training area. The materials may be used for one or two years of instruction. Curriculum materials for the other occupational areas in family and consumer sciences are available from The Curriculum Center for Family and Consumer Sciences, Texas Tech University, Box 41161, Lubbock, Texas, 79409-1161.

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Chapter 1

The Industry

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 1:

1F Analyze societal and cultural influences on the design of residential and nonresidential environments and their furnishings.

4E Describe considerations for selecting furniture and equipment to accommodate persons with specials needs.

7C Analyze uses of technology in furnishings, design, and construction.

15B Exhibit ethical practices as defined by the housing, furnishings, and equipment industries.

15C Analyze legal aspects of the housing, furnishings, and equipment industries.

Introduction

A house can be defined as any structure built for people to live in and is a place of great importance in their lives. It is an environment that provides security and protection from the world around us. Although basic housing needs are universal, individuals may also have additional needs. In order to meet those needs, the housing and furnishings industry considers factors, such as family life-cycle stages, universal design, flexible floor plans, and the use of technology in production and design.

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Activity 1-1 • Identification

Directions

Review early housing by completing the following activity. Read each statement below. Use the code provided to identify the statement as relating to natural shelters, permanent shelters, or portable shelters. Write the letter in the blank to the left of each statement.

Types of Early Housing
N = natural shelters
PE = permanent shelters
PO = portable shelters

____ 1. Primitive people used these shelters because they lacked the necessary tools to build houses.

____ 2. Some of these shelters were made from bamboo or giant reeds which were tied together to make a cone-shaped structure.

____ 3. Primitive hunters had a need for housing that could be taken apart easily, transported, and put back together quickly.

____ 4. Examples are castles constructed of thick stone walls.

____ 5. Materials such as animal skins, branches, and grasses were used to cover the frame.

____ 6. These shelters consisted of caves, large rocks, and large holes in the ground that were made by large boulders.

____ 7. Teepees are examples of this type of shelter.

____ 8. Egyptian farmers lived in mud-brick huts.

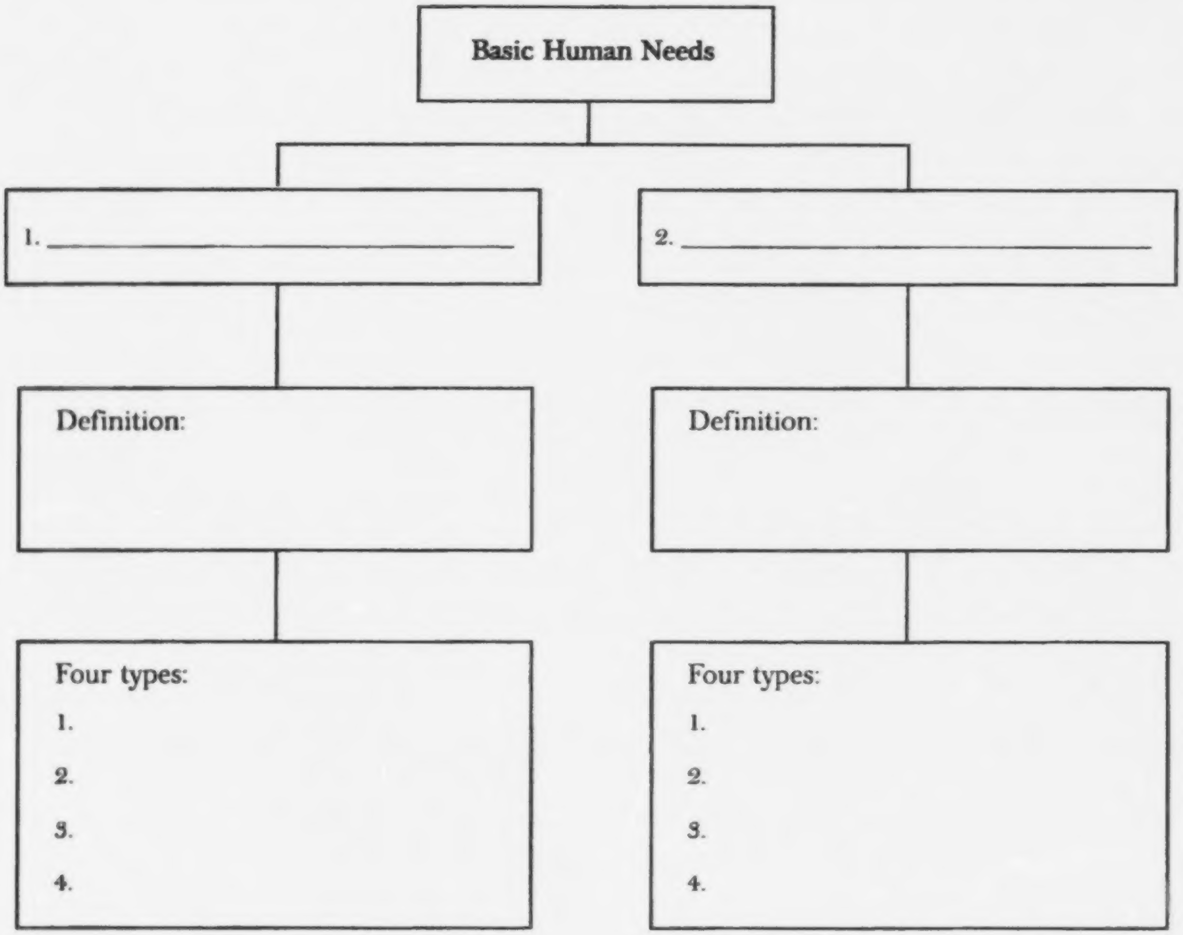
____ 9. Shelters were generally located around a water source, available food, or locations that could help protect the people.

____ 10. People used these shelters once farming was developed.

Activity 1-2 • Diagram

Directions

Housing has changed over the years to meet the needs of individuals. Complete the web diagram by providing information regarding human needs for housing.



Basic Human Needs

1. ______________________________

2. ______________________________

Definition:

Definition:

Four types:
1.
2.
3.
4.

Four types:
1.
2.
3.
4.

Activity 1-3 • Matching

Directions

While some families enjoy moving to a larger home as the family grows, many people prefer to live in a home that will grow with the family throughout all the life stages. In the following activity, match the family life-cycle stage with its appropriate description. Write the letter of the correct stage in the blank provided to the left of the description. HINT: Not all letters will be used.

Family Life-Cycle Stages

A. Aging stage
B. Beginning stage
C. Childbearing stage
D. Launching stage
E. Mid-years stage
F. Parenting stage

____ 1. A married couple with no children.

____ 2. The children are grown and living elsewhere and the family size returns to one or two people.

____ 3. A family with children between the ages of six and twenty.

____ 4. Covers the time of retirement until the death of both husband and wife.

____ 5. The time when the oldest child leaves home until the last child leaves home.

Directions

You are a columnist writing for the housing section in a local newspaper. Your editor has asked you to write an article on current trends in home design. Write a short article (maximum of two paragraphs) using information from the student reference book, pages 8 and 9. To compose your article, you may use the space provided below, a separate sheet of paper, or a word processor.

Activity 1-5 • Sentence Completion

Directions

Review the legal aspects of the housing and furnishings industry by completing the following sentences. In each blank, place the word or words that best complete(s) the statement.

1. Generally, all laws and regulations that are related to the housing and furnishings industries are the responsibility of the ____________________ ____________________ ____________________.

2. A group of ordinances, regulations, and other requirements prepared by various organizations associated with the housing industry are known as ____________________.

3. The letters IBC stand for a single set of building codes known as the ____________________ ____________________ ____________________.

4. Scraps of new woven or felted fabrics that are shredded back to the fibrous state and used again in the manufacture of woolens are known as ____________________ ____________________.

5. Also known as the wage-hour law, this law regulates minimum wages, working hours, overtime pay, record keeping, and child labor standards. It is known as the ____________________ ____________________ ____________________ Act.

6. Money collected from an employee's wages, if the wages go above a stated level established by federal law, is called ____________________ ____________________.

7. The form given to employees in January of each year showing the total wages received from an employer for the year is a Form ____________________.

8. Regulations that allow employers to deduct union dues, insurance premiums, credit unions contributions, charitable contributions, and similar employee benefits are ____________________ ____________________.

9. An insurance program designed to provide injured workers, or the survivors of workers killed on the job, with certain benefits is known as Worker's ____________________.

10. The term which includes laws and regulation prohibiting discrimination and/or including affirmative actions is known as ____________________ ____________________ ____________________ or EEO.

Chapter 2

Career Opportunities in the Housing and Furnishings Industry

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 2:

14A Determine preparation requirements for various levels of employment in a variety of careers in the housing, furnishings, and equipment industries.

14B Analyze the future employment outlook in the housing, furnishings, and equipment industries.

14C Describe entrepreneurial opportunities in the housing, furnishings, and equipment industries.

Introduction

The housing and furnishings industry offers many exciting and rewarding career opportunities. Some jobs allow people with high school training to be employed while they gain skills and experience. Other jobs require some special training or several years of education. Examples of opportunities include building-related careers, interior design, retail furniture careers, upholstery and furniture refinishing careers, and equipment and appliance manufacturing and sales careers. These career fields also offer entrepreneurial opportunities for the person desiring to own and operate his or her own business.

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Activity 2-1 • Research

Directions

It is wise to gather as much information as possible before making any career decisions. This activity will provide an opportunity for you to research suitable employment in the housing, furnishings, and equipment production industry. Read each item. Provide brief responses in the spaces provided. NOTE: To complete this activity use the *Occupational Outlook Handbook* , a similar publication, or visit the U.S. Department of Labor, Bureau of Labor Statistics web site: http*://www.bls.gov/oco/ocoiab.htm*

1. Selected career:
2. Briefly describe the nature of the work:
3. Briefly describe the working conditions:
4. Briefly describe the routine duties associated with this career:
5. Briefly describe the educational requirements required for this position:
6. In addition to educational requirements, briefly describe other skills that may be useful or required for this position:
7. Provide examples of earnings possible in this field:
8. Provide three related fields:

Self-evaluation

9. I am interested in this career because:

10. I am a good candidate for employment because:

Activity 2-2 • Descriptions

Directions

Review terms related to careers in the housing and furnishings industry by completing the following activity. For each term listed, provide a brief definition. Record your answers in the spaces provided.

1. Networking:

2. Entry-level jobs:

3. Apprentice:

4. Architect:

5. Building Contractor:

6. Interior Designer:

7. Refinisher:

8. Floriculture:

9. Retailer:

10. Wholesaler:

450

Activity 2-3 • Matching

Directions

Identify entrepreneurial opportunities in the housing and furnishings industry. Match each term with its description. Place the letter of the term in the space provided to the left of the description. No term will be used more than once.

Terms

A. capital investment
B. contracts
C. corporation
D. entrepreneur
E. franchise
F. franchisee
G. free enterprise
H. general partnership
I. limited partnership
J. profit
K. silent partners
L. small business
M. sole proprietorship

Descriptions

____ 1. Person who owns and operates his or her own business

____ 2. Freedom of individuals to organize and operate businesses for profit in a competitive system without governmental interference

____ 3. The economic system of the United States

____ 4. The ultimate goal of an entrepreneur

____ 5. Business owned by one person

____ 6. A legal business relationship in which two or more individuals share responsibilities, resources, and profits equally

____ 7. Silent partners maybe a part of this type of business

____ 8. A legal business relationship in which a group of persons join to create an entity treated by law as a separate individual

____ 9. A right or license granted to an individual or group to market a company's goods or services

____ 10. Person or group to whom a franchise is granted

Chapter 3

Employability Success

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 3:

13A Demonstrate effective verbal, nonverbal, written, and electronic communication skills.
13B Demonstrate effective methods to secure, maintain, and terminate employment.
13C Demonstrate positive interpersonal skills including conflict resolution, negotiation, teamwork, and leadership.
13D Evaluate the relationship of good physical and mental health to job success and achievement.
13E Demonstrate appropriate grooming and appearance for the workplace.
13F Demonstrate appropriate business and personal etiquette in the workplace.
13G Exhibit productive work habits and attitudes.

Introduction

Employers look for specific skills and characteristics when both hiring and evaluating employees. Therefore, individual skills and characteristics often determine employability success. Skills desired by employers may include communication skills, etiquette skills, and technical knowledge. Personal characteristics include good grooming and personal appearance, positive work habits, and the ability to cooperate willingly with others.

To be successful, a person needs to honestly evaluate personal strengths and weaknesses. In this way, personal strengths can be built upon and areas needing improvement are identified. Personal qualities, interpersonal skills, performance of routine tasks and specialized skills all can be improved through conscious effort.

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Activity 3-1 • Short Answer

Directions

Review effective communication skills by completing the following exercise. Read the following items. Respond to each item by recording your answer in the space provided.

1. Define communication.

2. Name two factors that are vital to the communication process.
   1)
   2)

3. List the three types of communication skills needed to be successful on the job.
   1)
   2)
   3)

4. List the three important parts of verbal communication.
   1)
   2)
   3)

5. Explain why good telephone communication skills are important to a business.

6. Provide three general guidelines for telephone usage.
   1)
   2)
   3)

7. Give three guidelines to follow when it is necessary to leave the phone line.
   1)
   2)
   3)

8. Explain the best method to follow when taking a message.

9. Explain why personal phone calls should be limited to emergencies and urgent matters.

10. Provide three examples of nonverbal communication or body language.
    1)
    2)
    3)

11. List three basic rules of conversation that should be used when speaking to a customer or coworker.
    1)
    2)
    3)

12. Explain the difference between listening and hearing.

13. List two ways one can show interest in a speaker through actions.
    1)
    2)
    3)

Activity 3-2 • Matching

Directions

Review abilities required in environmental design careers by completing the following activity. Match the term with its appropriate description. Write the letter of the correct term in the blank provided to the left of the description.

Terms

A. artistic
B. flexible
C. gracious
D. impartial
E. observant
F. professional
G. self-confident
H. social
I. tolerant
J. versatile

Descriptions

____ 1. A person who is adaptable and can adjust easily from one situation to another

____ 2. A person with many abilities and talents

____ 3. Abilities that involve combining elements and principles of design in skillful ways

____ 4. Abilities that include learning to work well with other employees

____ 5. Giving the appearance of being skilled, informed, and capable of performing a job

____ 6. Treating people with kindness and courtesy

____ 7. Describes a person who pays careful attention to what is happening in his or her surroundings

____ 8. Describes a person who is able to endure problems and accepts that others may have different beliefs or behavior

____ 9. Describes an employee who pays equal attention to all customers

____ 10. Describes a person who is aware of personal strengths

Activity 3-3 • Evaluation

Directions

The following activity is designed to help identify appropriate grooming and appearance needed for employability success. This exercise also provides you an opportunity to do an honest self-evaluation to determine personal strengths and weaknesses. Read each of the qualities listed. Place a ✔ in the space next to each quality you consider a personal strength. Place an **X** in the space next to each quality you consider a personal weakness. Then, circle the item number of each quality that is needed for employability success.

✔ = personal strengths **X** = personal weaknesses

____ 1. I check my clothing and general appearance before going to school or work.

____ 2. I make needed repairs to clothing on a regular basis.

____ 3. I stay aware of fashion trends and choose clothing that is fashionable.

____ 4. I select clothing that fits properly.

____ 5. I wash my hair as needed to maintain cleanliness and style my hair daily.

____ 6. I maintain fresh breath and clean teeth by brushing, flossing, and practicing dental hygiene.

____ 7. I keep my hands clean and well manicured.

____ 8. I take a bath or shower daily and use a reliable deodorant.

____ 9. I select sensible shoes that are kept clean and in good repair.

____ 10. I maintain proper posture when sitting, standing, and walking.

____ 11. I make good habit of smiling.

____ 12. I pronounce words correctly and use correct grammar.

____ 13. I speak loud enough to be heard and use a pleasant tone of voice.

____ 14. I am willing to listen to other people's views and opinions.

____ 15. I am prompt about completing assigned tasks.

____ 16. I am willing to take on ordinary and unusual tasks if necessary.

____ 17. I am dependable and show consistency in my work.

____ 18. I keep my temper under control in stressful situations.

____ 19. I avoid talking about other employees and supervisors.

____ 20. I keep a positive attitude and show enthusiasm and a willingness to learn.

Activity 3-4 • Fill-in-the-Blank

Directions

Review etiquette, productive work habits, and attitudes related to employability success by completing the following statements. Supply the missing letters in the blanks provided. Some of the letters have been filled in for you.

1. The set of rules about the proper way to interact with people is known as ________.
☐ ☐ ☐ ☐ ☐ E ☐ T ☐

2. A successful employee is one who is ________, or who gets the job done.
☐ ☐ ☐ D ☐ ☐ ☐ ☐ ☐ E

3. Discussions between an employee and employer to discuss an employee's job performance are ___________.
☐ ☐ ☐ L ☐ ☐ ☐ ☐ ☐ ☐ S

4. Willingness to follow the rules and policies of the business is part of being ________ to an employer.
☐ ☐ ☐ A ☐

5. Someone with whom a person works is a ________.
☐ ☐ ☐ ☐ R ☐ ☐ ☐

6. After completing an assigned task, the productive employee takes the ________ to look for the next task that needs to be done.
☐ ☐ I ☐ ☐ ☐ ☐ ☐ ☐ ☐

7. Consistently following through with tasks and responsibilities is the definition of ________.
☐ ☐ ☐ ☐ N ☐ ☐ ☐ ☐ ☐ ☐ T Y

8. When an employee is ________ someone else must do the person's work which can cause scheduling problems.
☐ ☐ S ☐ ☐ ☐

9. A positive attitude toward the employer, other employees, and the job helps the employee deliver high quality ________ and makes the job more enjoyable.
☐ ☐ ☐ ☐ O ☐ ☐ ☐ ☐ ☐ ☐

10. A good diet, regular exercise, and the proper amount of rest all contribute to good ________.
☐ ☐ ☐ L ☐ ☐

Activity 3-5 • Application

Directions

Being aware of the routine tasks common to environmental design operations is important to employability success in the housing and furnishings industry. Following are four routine tasks common to environmental design operations. In the boxes on the right, explain why each developmental task is important in design operations.

Routine Tasks Common to Environmental Design Operations	Why is it Important?
1. Merchandising	
2. Organization of Catalogs, Books, and Samples	
3. Discarding outdated materials	
4. Inventory	

Chapter 4

The Elements of Design

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 4:

1A Identify the elements of design.

1B Exhibit how the elements of design can create various effects.

Introduction

Design is an important factor in the housing and furnishing industry as it appears in all surroundings – in homes, buildings, clothing, and furnishings. Each day, individuals observe and react to design. It influences the clothes a person buys, the fabrics a person selects, and can also influence where a person dines. These reactions do not result from chance but, rather, through planned use of design.

The tools of good design used by the housing and furnishings industry are called the elements of design. The elements of design are space, shape and form, line, texture, and color. When used effectively, the elements of design adds to a person's happiness and enjoyment.

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Activity 4-1 • Matching

Directions

Review elements of design by completing the following activity. Match the term with its appropriate description. Write the letter of the correct term in the blank provided to the left of the description.

Terms

A. analogous
B. color wheel
C. cool colors
D. complementary colors
E. form
F. horizontal lane
G. hue
H. intensity
I. light
J. line
K. monochromatic
L. neutrals
M. shade
N. shape
O. space
P. texture
Q. tint
R. tones
S. triad
T. value

Descriptions

_____ 1. The most important of all the elements of design

_____ 2. Suggests two dimensions – length and width

_____ 3. Indicates three dimensions – length, width, and height

_____ 4. The element of design that indicates direction

_____ 5. Gives a feeling of restfulness

_____ 6. The surface quality of an object

_____ 7. The colors blank, gray, and white

_____ 8. Device used to show the relationship between colors

_____ 9. The basic color identity or the specific name of a color, such as red

_____ 10. The lightness or darkness of a color in relation to black and white

_____ 11. The result of adding white to a color

_____ 12. The result when black is added to a color

_____ 13. Formed by adding both black and white to a hue

_____ 14. The degree of brightness or dullness and strength or weakness of a color

____ 15. Hues that are four steps apart and equidistant from each other on the color wheel

____ 16. Color scheme that contains two or more variations of the same hue

____ 17. This must exist to be able to see the other elements

____ 18. Colors that are direct opposites on the color wheel

____ 19. Colors that are adjacent on the color wheel with one common hue

____ 20. Colors that give a feeling of restfulness, such as blue and green

Activity 4-2 • True/False

Directions

The following exercise is designed to help you review the elements of design. Read each statement. If the statement is True, circle the letter **T** to the left of the statement. If the statement is False, circle the letter **F**. Rewrite each false statement making it true.

T **F** 1. The element of space is the most most important of all elements to the interior designer.

____

T **F** 2. Shape and form are used interchangeably since they have the same meanings.

____

T **F** 3. The three basic shapes are the square, pyramid, and circle.

____

T **F** 4. Horizontal lines are the strongest, giving an impression of dignity, formality, and strength.

____

T **F** 5. Tightly curved lines are most often seen in fabrics, floor coverings, and artwork.

____

T **F** 6. Tactile texture is also known as simulated texture.

____

T **F** 7. A design in which the ornament is essential to the character of the object is called structural ornament.

____

T **F** 8. Geometric means realistic or as seen in nature.

____

T **F** 9. People react emotionally and physically to the colors around them.

____

Activity 4-2 • True/False, cont'd.

T F 10. The primary colors are red, yellow, and green.

____

T F 11. Artificial lighting comes from the sun.

____

T F 12. Hue refers to the basic color identity or the specific name of a color.

____

T F 13. A tint is the result when white is added to a color.

____

T F 14. Intensity refers to the degree of brightness or dullness and strength or weakness of a color.

____

T F 15. An analogous color scheme uses color that are adjacent on the color wheel with one common hue.

____

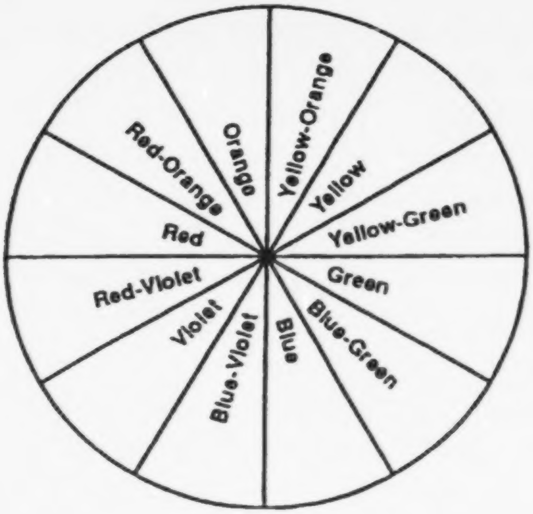
Activity 4-3 • Application

Directions

To review the color wheel and color harmonies, complete the following exercises.

A. 1. Complete the Basic Color Wheel illustrated below by applying the colors as indicated on the wheel. Use crayons, colored pencils, colored pens, or markers for applying the colors.

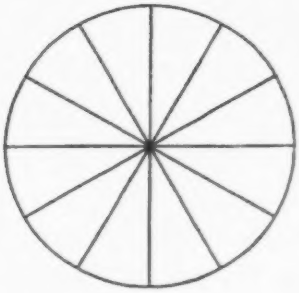
Basic Color Wheel


Yellow-Orange
Orange
Red-Orange
Yellow
Yellow-Green
Red
Green
Red-Violet
Blue-Green
Violet
Blue
Blue-Violet

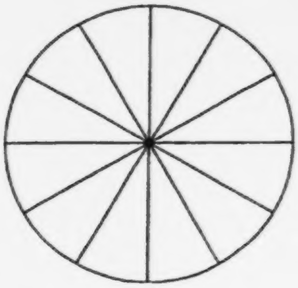
2. Using the completed color wheel, identify and label the following:
   - a. Primary colors
   - b. Secondary colors
   - c. Tertiary or intermediate colors

B. Define *monochromatic:* ______________________________

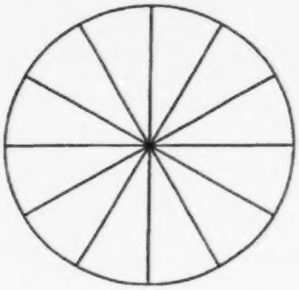
On the color wheel below, apply colors to illustrate a monochromatic color scheme.



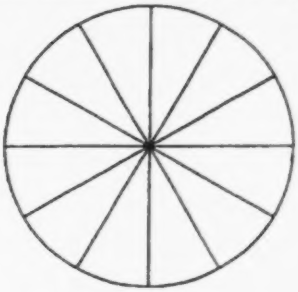
C. Define *analogous*: ____________________
On the color wheel below, apply colors to illustrate an analogous color scheme.



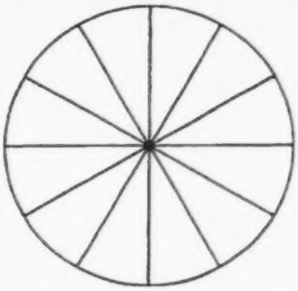
D. Define *complementary*: ____________________
On the color wheel below, apply colors to illustrate a complementary color scheme.



E. Define *split complementary*: ____________________
On the color wheel below, apply colors to illustrate a split complementary color scheme.



F. Define *triad*: ____________________
On the color wheel below, apply colors to illustrate a triad color scheme.



Chapter 5

The Principles of Design

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 5:

1C List the principles of design.

1D Explain how the principles and elements of design differ.

Introduction

The parts that make up a design were introduced in Chapter Four. These parts are called the elements of design and include space, shape and form, line, texture, and color. Although there are no rigid rules for combining the elements to create a design, there are basic guidelines to follow. These guidelines are called the principles of design and include balance, rhythm, emphasis, proportion and scale, and harmony. In the housing and furnishings industry, the principles of design are used by interior designers, architects, showroom decorators, floral designers, and textile designers.

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Activity 5-1 • Sentence Completion

Directions

Analyze the use of principles of design in the housing and furnishings industry. Complete the following items by writing in the word or words that best complete(s) each sentence.

1. The principle of design that produces a sense of equality between opposite elements is ____________________.

2. A design that is balanced by different on each side of the design center is called ____________________.

3. The organized movement that helps achieve unity and variety is ____________________.

4. Crown molding or chairs rails are often used in a space to create rhythm by ____________________.

5. The principle of design that creates order and captures attention is ____________________.

6. How an object attracts the eye and how much it is noticed defines the __________ __________ of an object.

7. The principle that deals with the parts of one object and how they relate to each other is ____________________.

8. The relative size of an object in relation to other objects or space is ____________________.

9. The pleasing or congruent arrangement of parts resulting when variety and unit are achieved is called ____________________.

10. Having an assortment of different qualities especially of the same design element is known as ____________________.

Activity 5-2 • Analysis

Directions

Review the principles of design by completing this activity. Use a magazine, catalog, or similar resource to find a picture of a room. The room may be a living room, family room, dining room, kitchen, or bedroom. Cut out the picture and attach it to the space provided below using glue, staples, or tape. Analyze the picture by locating the principles of design used in the room. Then, identify the following principles of design found in the illustration by describing where and how each is used. Write your response in the space provided.

NOTE: Not all principles may be present in your illustration.

1. Balance
   a. symmetrical
   b. asymmetrical
   c. radial

2. Rhythm
   a. repetition
   b. alternation

c. gradation

d. transition

e. contrast

f. radiation

3. Emphasis

4. Proportion and scale: Use of "The Golden Mean"

5. Harmony

   a. unity

      – repetition

      – similarity

      – congruence of parts

      – components express basic character

   b. variety

      – textures

      – lines

      – shapes

      – forms

      – color

      – ornament

Activity 5-3 • Matching

Directions

Match each principle of design with its appropriate description. Some design principles will not be used. No principle will be used more than once.

Terms

A. asymmetrical balance
B. contrast
C. emphasis
D. golden mean
E. progression
F. proportion
G. radiation
H. rhythm
I. scale
J. symmetrical balance
K. transition
L. visual weight

Descriptions

____ 1. Achieved by using various textures, forms, colors, patterns, and ornaments together

____ 2. Organized movement that helps to achieve unity and variety

____ 3. Accomplished by making gradual successive changes in a design

____ 4. Achieved through the use of continuous lines moving throughout a design

____ 5. Seen in 90-degree angles

____ 6. The center of interest, focal point, or dominant idea

____ 7. The psychological impact that an object makes on us

____ 8. Relationship of one part to the whole object

____ 9. Ratios of 2:3, 3:5, 5:8, and 8:13

____ 10. The relative size of an object in relation to other objects or space

Activity 5-4 • Short Answer

Directions

Review the principles of design by completing the following activity. Respond to each item in the space provided.

1. List the principles of design.
   1)
   2)
   3)
   4)
   5)
2. What type of balance is created by arranging equivalent objects on either side of a center point?
3. What is progression or gradation?
4. What are two items that can be used to create a focal point?
   1)
   2)
5. Identify three features that add visual weight to objects.
   1)
   2)
   3)
6. What is proportion?
7. What is the "Golden Mean?"
8. What is scale?
9. What is variety?
10. What is meant by unity + variety = harmony?

Chapter 6

Design Considerations

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 6:

1B Exhibit how the elements of design can create various effects.

3A Analyze products to determine the appropriate style of design.

7B Utilize knowledge of design application, selection, and construction to complete furnishings projects.

Introduction

Design impacts an individual's decisions everyday – from choosing the clothes to wear that day to choosing a restaurant at which to join friends for lunch. Influencing individual choices does not result from chance but, rather, through planned use of design.

When planning a design, the housing and furnishings industry professional considers the four factors that influence design, and the types and styles of design. The final goal of design is to apply the elements and principles of design. All these aspects of design must be considered before a total design can be produced successfully.

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Activity 6-1 • Definition/Application

Directions

Before a design can be created, four things must be determined. These four factors are function, materials chosen, style, and technology used in making the design. Review factors that influence design by completing the following activities. Record your answers in the spaces provided.

Identify factors that influence design by completing the following activities. Record your answers in the space provided.

Part I:

For each of the terms listed below, write a brief description as to how the factor influences design. Try to think of descriptions other than those used in the reference book.

1. function

2. materials

3. style

4. technology

Part II:

Locate a picture of a piece of furniture in a furniture store flyer, furniture catalog, or similar resource. If you have access to the Internet and a printer, you may visit web sites such as the following to locate a picture.

www.behome.com
www.furnitureonline.com
www.FurnitureOnTheWeb.com

Attach the picture in the space provided below using glue, tape, or staples. Then answer the following questions. NOTE: Some answers may require speaking to a manufacturer or sales person.

1. What is the function of the furniture piece selected?

2. What material(s) are used in/on the selected item?

3. What style was used in the furniture item?

4. What technology was used to construct the item?

Activity 6-2 • Illustration/Identification

Directions

Review types of design and styles of design by completing the following activity. Complete each of the boxes below by illustrating the type of design or style of design indicated. For each type or style, locate an example in a magazine, catalog, or other similar source. You may also choose to sketch an example. Additionally, if you have access to the Internet and a printer, you may visit web sites such as the following to locate a picture:

www.behome.com
www.furnitureonline.com
www.FurnitureOnTheWeb.com

In each numbered box, sketch your illustration in the space provided or attach the chosen example using glue, tape or staples. Below the illustration or picture, provide an explanation as to why the chosen example is a good one.

1. Structural design is primarily functional and made for a specific purpose to use. Why is this a good example?

Activity 6-2 cont'd. • Illustration/Identification

2. Decorative design is primarily aesthetic, or made for beauty and enjoyment. Why is this a good example?

3. Naturalistic design or realistic design represents subjects just as they are found in nature. Why is this a good example?

Activity 6-2 cont'd. • *Illustration/Identification*

4. Stylized Design or conventional design is inspired by natural forms, but they are not accurately represented in the design. Why is this a good example?

5. Abstract design is an imaginative, impressionistic form of representation. Why is this a good example?

Activity 6-3 • Analysis

Directions

The final goal of design is to select patterns, sizes, shapes, and colors that go well together and result in a pleasing appearance. For this activity, review the elements and principles of design. Using magazines, catalogs, or other similar sources, locate pictures of two separate items that can be used to illustrate the application of the elements and principles of design. Choose what you consider one good example and one poor example. If you have access to the Internet and a printer, you may visit web sites such as the following to locate pictures:

http://www.behome.com
http://www.furnitureonline.com
http://FurnitureOnTheWeb.com

Attach the examples in the space provided using glue, tape or staples. Below your example, write description of how the elements and principles of design have been applied.

Good example of the application of the elements and principles of design. Describe how the application of the elements and principles of design have been used effectively.

Poor example of the application of the elements and principles of design. Describe how the application of the elements and principles of design have been used ineffectively.

Activity 6-4 • Research

Directions

When designing products for individuals it is important to understand the human body. A mismatch between the physical requirements of the job and the physical capacity of a worker can lead to injuries. Complete the following activity to review ergonomics and its importance in the design industry. Write your answer in the space provided, on a separate sheet of paper, or use a word processor.

1. What is ergonomics?

2. Who are ergonomists?

3. What are MSDs?

4. Choose one of the following activities. Complete as directed.

A. Visit one of the following web sites or a similar one you locate. Choose and print out an article relating to ergonomics as it relates to furnishings and design. Read the article and summarize the information in one or two paragraphs. Attach the article to this page using paper clips, tape or staples.

- http://www.spineuniverse.com When the homepage opens, scroll down to Healthy Living and click on Ergonomics Index. Choose an article from the list.
- http://mmm.com/cws/newletr.html Choose an article from the list.

B. If you do not have access to the Internet, do a library search. Find a magazine article or newspaper article discussing ergonomics as it relates to furnishings and design. Then follow the instructions in 4A.

Activity 6-5 • Matching

Directions

Identify the different phases of the design process by determining when the following list of tasks should be completed. Place the letter for programming, preliminary design, design development, implementation, or evaluation phase in the blank to the left of the described activity.

Terms

A. Programming Phase
B. Preliminary Design Phase
C. Design Development Phase
D. Implementation Phase
E. Evaluation Phase

Descriptions

_____ 1. The first phase of the design process
_____ 2. Furniture delivered
_____ 3. Punch list prepared
_____ 4. Completing a client profile
_____ 5. Presentation drawings prepared
_____ 6. Meeting with the client to outline the scope of services that need to be completed
_____ 7. Period following the completion of the project
_____ 8. Lay out the schedule for completing the project
_____ 9. A concept statement is written
_____ 10. Flooring installed
_____ 11. Preparing adjacency studies
_____ 12. Can occur at 6 months, 1 year, and 2 years
_____ 13. Workers are scheduled
_____ 14. Major brainstorming phase
_____ 15. Determining the budget

Chapter 7

Selection and Coordination of Floor Plans

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 7:

1B Exhibit how the elements of design can create various effects.

1F Analyze societal and cultural influences on the design of residential and nonresidential environments and their furnishings.

3B Determine appropriate use of accessories, lighting, materials, and space in various environments.

3C Describe trends in materials, accessories, lighting, and space utilization.

4D Arrange furniture and equipment to accommodate floor plans to meet needs and wants.

Introduction

A well-designed home is one that has been planned to provide the owners with efficient use of space. When considering the use of space, the housing professional often uses floor plans. Floor plans are accurate diagrams on which furniture groupings can be planned. The floor plan aids in determining the amount of space available in each room, the amount of furniture needed, and the size of the furniture best suited for the room. Without an accurate floor plan, selecting and arranging furniture is difficult.

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Activity 7-1 • Idea Graph

Directions

Review features to look for in a floor plan by completing the following activity. Complete the idea graph below by providing three ways each of the listed considerations will allow the potential buyer to make a more informed choice when purchasing a home. Write your answer in the space provided.

Well-designed Spaces

1.
2.
3.

Efficient Circulation

1.
2.
3.

Features to Look for in a Floor Plan

Well-placed Openings

1.
2.
3.

Adequate Space

1.
2.
3.

Directions

Review basic types of floor plans by completing the following activity. Perform a search to locate examples of each of the basic types of floor plans. Good sources are books and magazines that focus on interior design and architecture. Make a photocopy of the floor plan and attach it to this activity using paper clips, staples, or tape. Then analyze the advantages and disadvantages for each type of floor plan. Write your answers in the space provided.

NOTE: you may sketch the different types of floor plans when magazines and books are unavailable.

1. **The Square Plan**
   advantages

   disadvantages

2. **The Rectangular Plan**
   advantages

   disadvantages

3. **The Multi-storied Plan**
   advantages

   disadvantages

4. **L, T, U or H Plan**
   advantages

   disadvantages

Activity 7-3 • Math

Directions

NOTE: An architect's scale is required for this exercise. Using an architect's scale, measure the lines below. Write the length in feet of the line in the blank to the left of the number.

________ 1. ______________________________
use 1/8 inch = 1 foot scale

________ 2. ____
use 1/2 inch = 1 foot scale

________ 3. ____
use 1/4 inch = 1 foot scale

________ 4. ___________________________
use 3/8 inch = 1 foot scale

________ 5. ____
use 1 inch = 1 foot scale

________ 6. ____
use 3/4 inch = 1 foot scale

________ 7. ____
use 3/16 inch = 1 foot scale

________ 8. ________________________________
use 3/32 inch = 1 foot scale

________ 9. __________________
use 1/4 inch = 1 foot scale

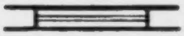
________ 10. ____
use 1/4 inch = 1 foot scale

Activity 7-4 • Labeling

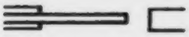
Directions

Review floor plan symbols by completing the following activity. Match the floor plan symbol to its correct illustration. Place the letter of the floor plan symbol on the blank to the left of the illustration. Hint: Not all letters will be used.

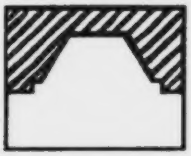
______ 1.



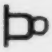
______ 2.



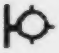
______ 3.



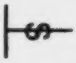
______ 4.



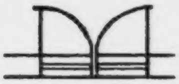
______ 5.



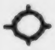
______ 6.



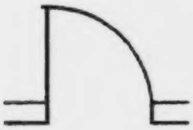
______ 7.



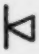
______ 8.



______ 9.



______ 10.

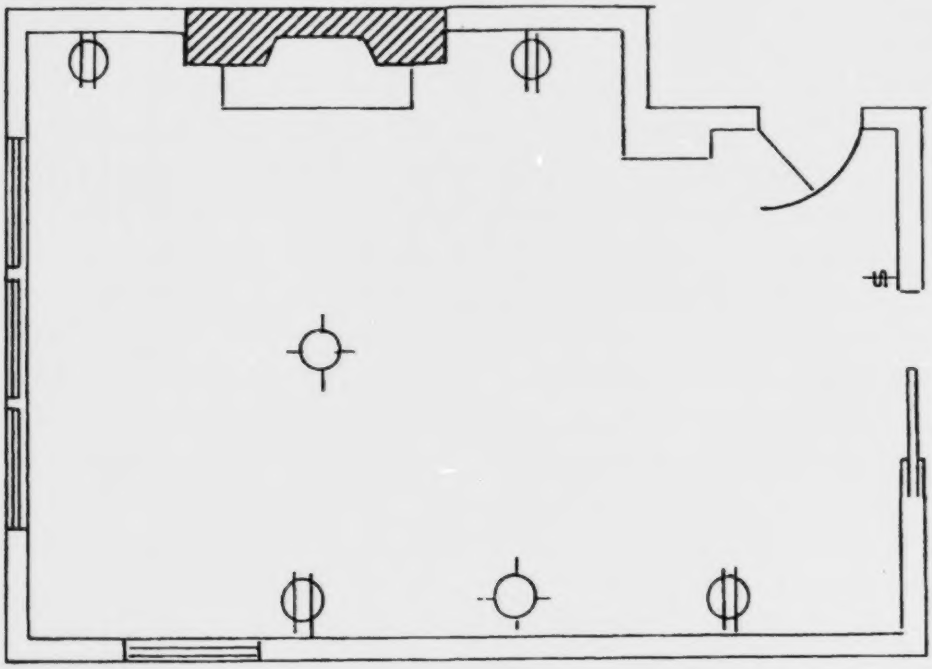


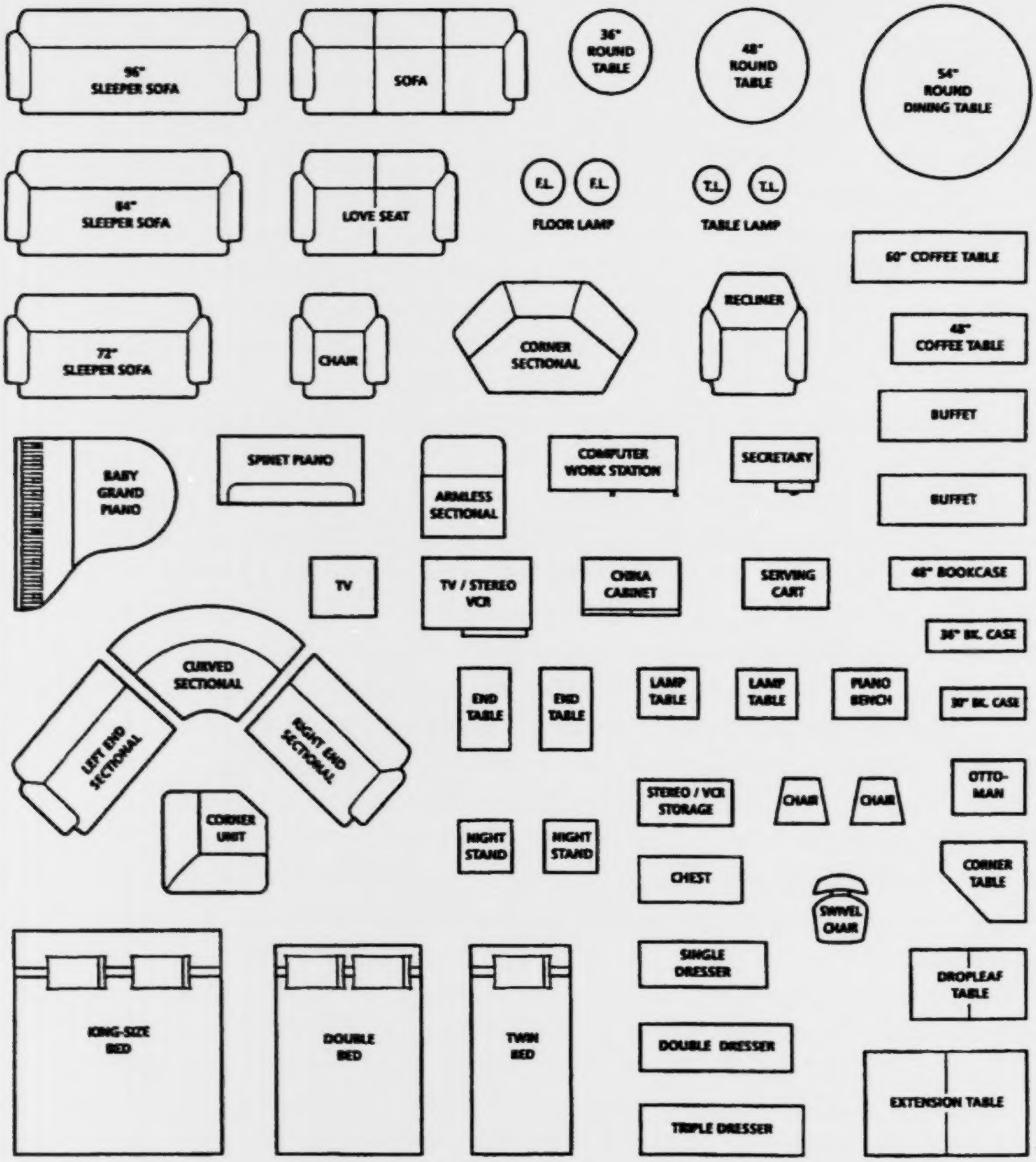
Floor Plan Symbols

A. 115-volt Outlet
B. Casement Window
C. Ceiling Light
D. Door
E. Doorbell
F. Fireplace
G. Sliding Door
H. Switch
I. Telephone
J. Wall Light
K. Window

Directions

When experimenting with furniture placement, it is important to remember that there is no perfect arrangement although some arrangements work better than others. Try your hand at furniture placement by completing the following activity. Begin by reviewing Figure 7.6, Guidelines for Furniture Placement in the Reference Book. Using the furniture templates on the following page, arrange them on the floor plan illustrated below. Select the furniture placement that seems best. The finished plan can have the furniture traced or drawn onto the floor plan, or the templates can be cut out and be taped or glued onto the paper.




96" SLEEPER SOFA
SOFA
36" ROUND TABLE
48" ROUND TABLE
54" ROUND DINING TABLE
84" SLEEPER SOFA
LOVE SEAT
F.L.
F.L.
FLOOR LAMP
T.L.
T.L.
TABLE LAMP
60" COFFEE TABLE
72" SLEEPER SOFA
CHAIR
CORNER SECTIONAL
RECLINER
48" COFFEE TABLE
BUFFET
BABY GRAND PIANO
SPINET PIANO
ARMLESS SECTIONAL
COMPUTER WORK STATION
SECRETARY
BUFFET
TV
TV / STEREO VCR
CHINA CABINET
SERVING CART
48" BOOKCASE
36" BK. CASE
CURVED SECTIONAL
LEFT END SECTIONAL
RIGHT END SECTIONAL
END TABLE
END TABLE
LAMP TABLE
LAMP TABLE
PIANO BENCH
30" BK. CASE
CORNER UNIT
STEREO / VCR STORAGE
CHAIR
CHAIR
OTTO-MAN
NIGHT STAND
NIGHT STAND
CHEST
CORNER TABLE
SWIVEL CHAIR
KING-SIZE BED
DOUBLE BED
TWIN BED
SINGLE DRESSER
DROPLEAF TABLE
DOUBLE DRESSER
EXTENSION TABLE
TRIPLE DRESSER

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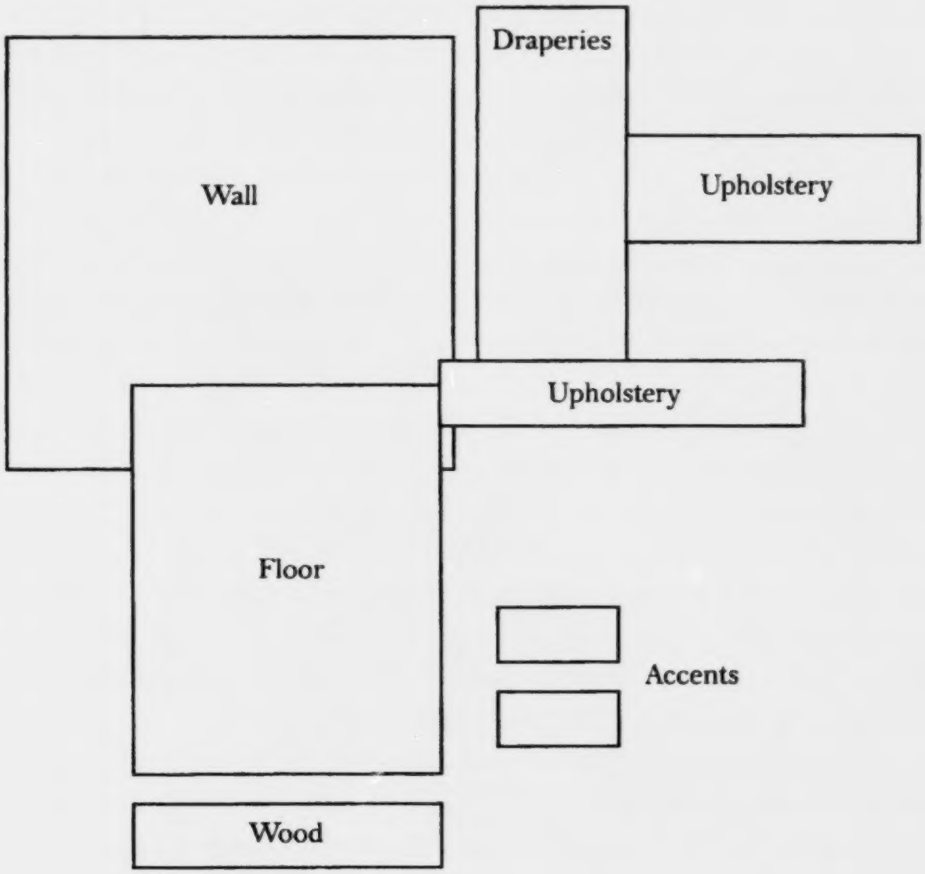
Activity 7-6 • Scenario

Directions

Review presentation boards by completing the following activity. Read the scenario. Then complete the exercise using the numbered choices. You may use one method to complete the exercise or a combination of methods.

1. Locate swatches and other samples that fit the scenario. Cut and place them in the collage template.
2. Locate magazine illustrations that fit the scenario. Cut and place them in the collage template.
3. Use artist's materials (i.e., colored pencils, markers) to color or draw illustrations that fit the scenario

The Garcias have hired your company to help redesign their family room. They want a beige color for the walls, greens and blues for their sofa and chairs, beige carpet, and shutters for the windows. The room has a built-in entertainment center and bookshelves.



Chapter 8

Selection and Coordination of Furnishings

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 8:

1E Apply guidelines for coordinating furnishings.
1F Analyze societal and cultural influences on the design of residential and nonresidential environments and their furnishings.
4B Compare furniture and equipment needs of families in different stages of the life cycle.
4C Evaluate economic considerations when selecting furniture and equipment.
4E Describe considerations for selecting furniture and equipment to accommodate persons with special needs.
4F Utilize sources of information on changing trends and technology related to furnishings and equipment.

Introduction

When selecting furnishings, personal taste should be a primary consideration. However, there are other factors that, when considered, aid in making satisfactory furnishings choices. These factors include the furnishing's quality, cost, size, style, and maintenance requirements.

The accumulation of furnishings is often a slow and gradual process. Furnishings can be inherited, rented, purchased new, used, or borrowed. Almost any style of furnishings can be combined successfully when the principles of design are followed. Harmony of scale, line, and color contribute more to the unity of a decorating scheme than does the choice of specific furniture styles.

Activity 8-1 • Web Diagram

Directions

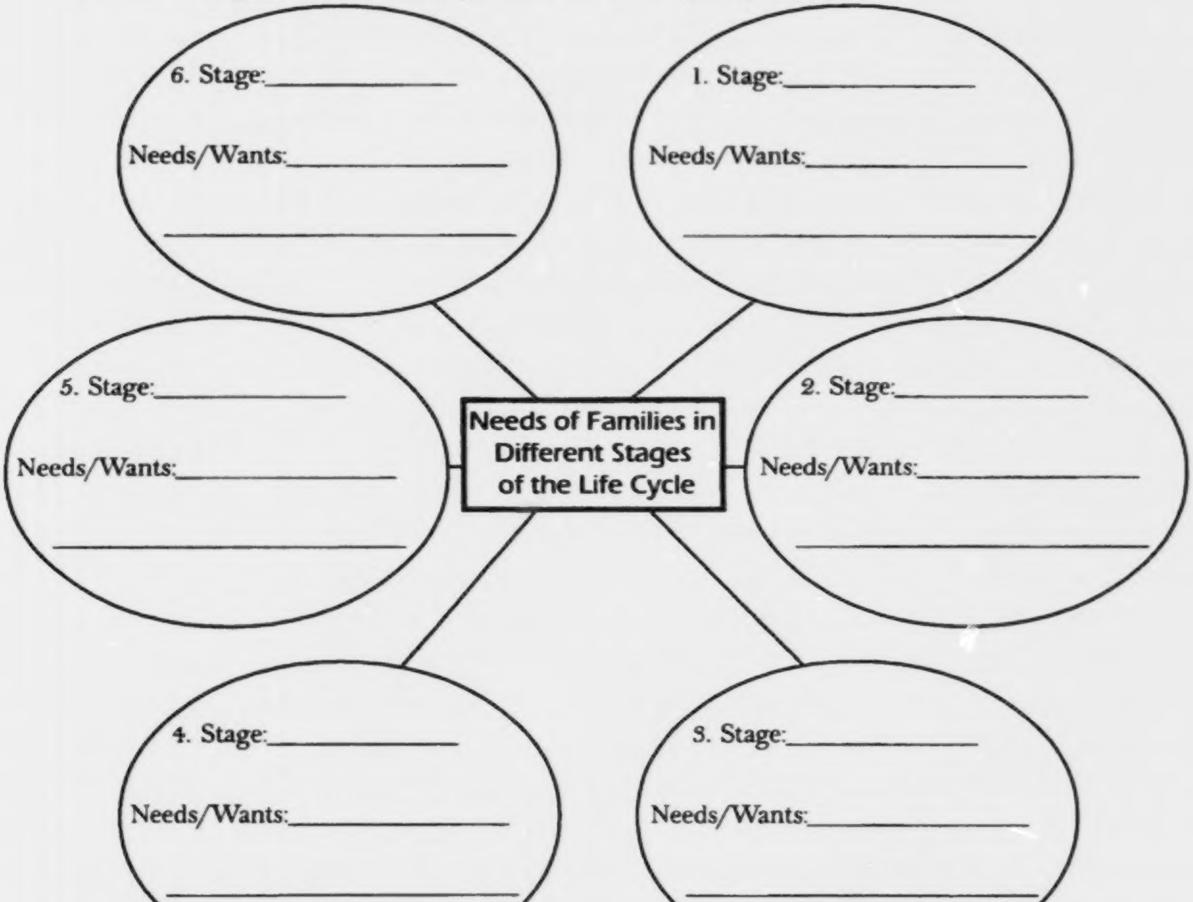
Review the section on selection of furnishings by completing the following activities.

Part A. Read the following items. Write your response in the space provided.

1. Explain the difference between wants and needs.

2. Provide an example of a need relating to selection and coordination of furnishings and how that need factors into a want.

Part B. Home furnishings selections tend to correspond to changes in the life cycle. Complete the web diagram below by supplying the following information. First, in the spaces provided, list the six stages of the family life cycle. Then, for each of the six stages, identify one need or want related to home furnishings selections. Write your answer in the space provided.



Needs of Families in Different Stages of the Life Cycle

6. Stage:______________
Needs/Wants:________________
____

1. Stage:______________
Needs/Wants:________________
____

5. Stage:______________
Needs/Wants:________________
____

2. Stage:______________
Needs/Wants:________________
____

4. Stage:______________
Needs/Wants:________________
____

3. Stage:______________
Needs/Wants:________________
____

Activity 8-2 • Scenario

Directions

Review selection of furnishings to accommodate special needs by completing the following activity. Read the scenario. Then complete the exercise by responding to the following questions. Write your answers in the spaces provided.

Part A. You are a free lance consultant working for a local architectural firm. It is your responsibility to work with the architect in the careful planning of rooms to accommodate the needs of persons with physical impairments. List ten factors that should be considered when designing the home.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

Part B. As a free lance consultant, individuals often contact you to help them with modifying their homes to accommodate family members who have impaired sight or hearing. List five suggestions you would offer these individuals. Specify whether the suggestion is for sight or hearing impairments.

1.

2.

3.

4.

5.

Activity 8-3 • Matching/Description

Directions

Review information about furniture styles by completing the following activity.

Part A. Match each furniture style to the most appropriate description. Write the letter of the furniture style in the blank to the left of each description. Note: not all furniture styles will be used.

Furniture Styles

A. antiques
B. classical
C. eclectic
D. modern
E. provincial furniture
F. traditional
G. transitional contemporary

Descriptions

____ 1. Simplified version of the traditional design

____ 2. Include contemporary furniture

____ 3. Include original furniture that is more than 100 years old

____ 4. Copies of historical styles

____ 5. Include the original design of historical origin

Part B. List the two most common variations of furniture styles. Provide a brief description of each variation. Use the space provided for your response.

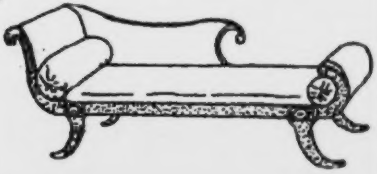
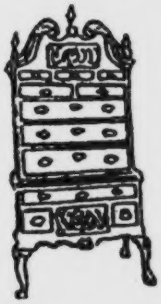
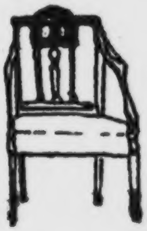
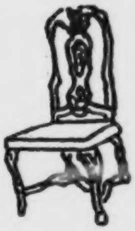
1.

2.

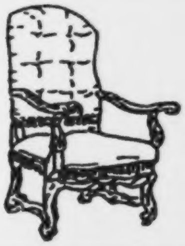
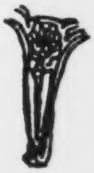
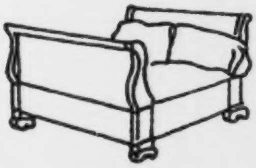
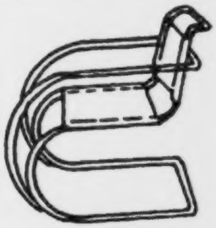
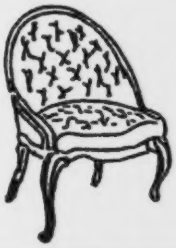
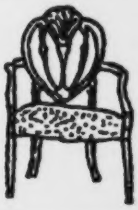
Activity 8-4 • Identification

Directions

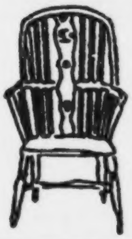
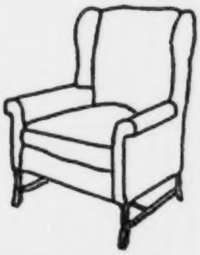
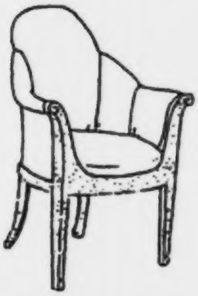
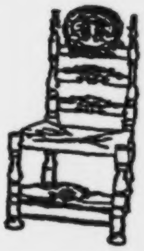
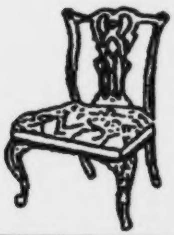
Period furniture refers to furniture styles that were popular in the past. In order to combine furniture of one or more styles tastefully, a person should recognize styles of certain periods and their characteristics. Review period furniture by completing the following activity. Styles of furniture from major period are illustrated below. Complete the box with the following information (a) identify the century of the furniture style, and (b) provide a description of the period furniture.

Style	Century	Description
1. 		
2. 		
3. 		
4. 		

Activity 8-4 • Identification, cont'd.

Style	Century	Description
5. 		
6. 		
7. 		
8. 		
9. 		
10. 		

Activity 8-4 • Identification, cont'd.

Style	Century	Description
11. 		
12 		
13. 		
14. 		
15. 		

Activity 8-5 • Analysis/Bonus Question

Directions

Almost any style of furnishings can be combined successfully if the principles of design are followed. Review guidelines for coordinating furnishings by completing the following activity. Use a magazine, catalog, or similar resource to find a picture of a room. The room may be a living room, family room, dining room, kitchen, or bedroom. Cut out the picture and attach it to the space provided below by using glue, staples, or tape. Use the Guidelines for Coordinating Furnishings, Fig. 8.5 in the Reference Book, to locate five guidelines used in your picture. In the spaces provided, write the five guidelines and how they are used in your picture.

1.

2.

3.

4.

5.

Bonus Question: Locate any period pieces in your picture (furnishings or accessories). Identify the furnishings (i.e., table, lamp, sofa) and the period style of furniture (see the section on Period Furniture in the Reference Book for major periods and styles of furnishings.)

Type of Furnishing	Period Style
1.	1.
2.	2.
3.	3.

Activity 8-6 • Evaluation

Directions

Shopping for furniture is unique when compared to shopping for clothing or electronics. Generally, furnishings are expensive and purchasing requires careful consideration. Review purchasing furnishings and buying guidelines by completing the following activities.

Part A. Listed are purchase options for furnishings. Complete the box by identifying one advantage and one disadvantage for each purchase option. Write your answer in the designated space.

Purchase Option	Advantage	Disadvantage
1. Cash	1.	1.
2. Credit	2.	2.
3. Garage sales/estate sales	3.	3.
4. Warehouse showrooms	4.	4.
5. Mail-order catalogs	5.	5.
6. Specialty shops	6.	6.
7. Unfinished furniture stores	7.	7.
8. Furniture rental stores	8.	8.

Part B. It is important for consumers to know the laws that protect them. For each Act listed below, provide a brief description of how it serves to protect consumers. Write your answer in the space provided.

9. Consumer Credit Protection Act

10. Consumer Leasing Act

Activity 8-7 • Creative Writing

Directions

Review trends and technology in selection and coordination of furnishings by completing the following activity. Read and consider the trends and technology that have impacted the furnishings industry over the last 100 years. Using the space provided below, predict a change in furniture, appliances, or home electronics that you think may occur within the next 100 years. You may want to look through interior design books, magazines, catalogs, or industry-specific journals to get ideas. Get creative in your prediction. Note: there are no right or wrong answers.

Chapter 9

Selection and Coordination of Accessories

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 9:

1B	Exhibit how the elements of design can create various effects.
1F	Analyze societal and cultural influences on the design of residential and non-residential environments and their furnishings.
3B	Determine appropriate use of accessories, lighting, materials, and space in various environments.
3C	Describe trends in materials, accessories, lighting, and space utilization.
3E	Evaluate cost considerations in accessorizing for various settings.

Introduction

Accessories are the interesting, personal pieces that give character and excitement to a room. Accessories represent individual tastes more than any other item of furnishings. Therefore, they should be selected with great care and should be suitable to the personality and character of a room or setting.

The selection and coordination of accessories may include small accessories, wall accessories, lighting, plants and flowers, table appointments, and linens for table, bath and bed. When selecting and coordinating accessories it is important to consider the principles of design in order to achieve a pleasing, attractive display.

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Activity 9-1 • Application

Directions

Accessories complete the total look of a room or a store arrangement. Complete the following activity to review types of accessories. First define the types of accessories listed. Then, locate two examples of that type of accessory in a magazine, catalog, or other similar source. Attach the example in the space provided using glue, tape, or staples. You may also choose to sketch an example in the space provided. Below each example, justify why your selection meets the criteria of the type of accessory identified.

A. Define functional accessories:____________________________________

Example 1:

Justification:

Example 2:

Justification:

B. Define decorative accessories:____________________________________

Example 3:

Justification:

Example 4:

Justification:

C. Some accessories may be both decorative and functional. Find one example of an accessory that could be both decorative and functional. Justify your choice.

Example 5:

Justification:

Activity 9-2 • Fill -in-the-Blank

Directions

Review small accessories by completing the following activity. For each item below, supply the word or words that best completes the sentence.

1. Small accessories add color, ______________, and ______________ to make the home or store arrangement unique.
2. Small accessories include items such as decorative plates, small photographs, ______________, and ______________ ______________.
3. In a home, the small accessories reflect individual ______________ and ______________.
4. Without the small accessories, a room looks ______________and ______________.
5. Since the total success or failure of an arrangement can depend upon the accessories used, a person must ______________ and______________ small accessories carefully.
6. It is important to remember that each item should add ______________ or ______________ to the arrangement.
7. The use of too many accessories in a display or room arrangement creates ______________ which gives a look of confusion instead of warmth.
8. In store displays, accessories should create the ______________ touch of a home.
9. In displaying accessories for retail sale, accessories should be ______________ and ______________.
10. Individuals working in retail must be aware of ______________ problems with small accessories.

Activity 9-3 • Sentence Completion

Directions

The statements below review the types of and uses of wall accessories. Read each item. From the terms provided, select the word or words that best completes the sentence. Write the letter of the term in the blank provided to the left of the numbered item. Each term will be used only once.

Terms

A. appreciated
B. architectural
C. chimes
D. formally
E. functional
F. furniture
G. hooks
H. impressionist
I. narrow
J. oil
K. principles of design
L. related
M. sconces
N. transition
O. realism
P. Rembrandt
Q. space
R. surrealism
S. varnish
T. visual

_____ 1. Brackets which attach to the wall and are used for holding candles are (1).

_____ 2. Selection and placement of various wall accessories must be designed around existing (2) features such as windows, doors, and fireplaces.

_____ 3. All wall accessories should be arranged in relation to a piece of (3).

_____ 4. When hanging pictures for home, select a location where accessories will be (4) and easily seen.

_____ 5. When hanging accessories, allow no wires or (5) to show.

_____ 6. Two identical objects selected for display do not have to be (6) balanced.

_____ 7. The materials used for paintings include (7), acrylic, or tempera.

_____ 8. Pictures should add interest and represent good use of the (8).

_____ 9. Pictures can be used alone as a focal point or in groupings with other pictures or (9) objects.

_____ 10. Glass should be used only on pictures that cannot be protected by a durable coating such as (10).

_____ 11. A mat can widen the size of a picture and is effective in providing a (11) from a patterned background to the picture.

____ 12. The classical styles of painting often applied to works of artists such as (12).

____ 13. The form of painting that is concerned with effects of light, which retain the objective nature of a setting without copying the scene, is the (13) style.

____ 14. The painting of fantasy or interpretation of a dream world is (14).

____ 15. The objective style is the painting of subject matter handled with (15).

____ 16. Vertical pictures fit best in (16) wall spaces.

____ 17. Different sizes of pictures can be hung together for (17) interest.

____ 18. Mirrors can be used to create an expansion of (18).

____ 19. Wall shelves can be decorative as well as (19).

____ 20. Clocks that strike or have (20) should be set at different times and placed far enough apart in the store or home so they will not interfere with each other.

Activity 9-4 • Matching

Directions

Lighting is an important accessory that affects the beauty and efficiency of a home, office, or store. In the following activity, match the lighting term with its appropriate description. Write the letter of the term in the blank provided to the left of the description.

Terms

A. artificial
B. cove
C. diffused
D. direction
E. distribution
F. fluorescent
G. incandescent
H. indirect
I. natural
J. recessed

Descriptions

______1. Light provided by the sun.

______2. Lighting that may come from one of two sources, either incandescent or fluorescent.

______3. Lighting produced when electricity is passed into a vacuum bulb.

______4. Lighting produced in a glass tube.

______5. Lighting that is directed toward a ceiling or wall and is reflected from that surface.

______6. The angle at which light is projected.

______7. Lighting placed behind a ledge that distributes light up and over the ceiling and upper wall.

______8. Includes round or square fixtures set into the ceiling that can provide diffused or concentrated light for certain areas.

______9. Light that is dispersed evenly in all directions.

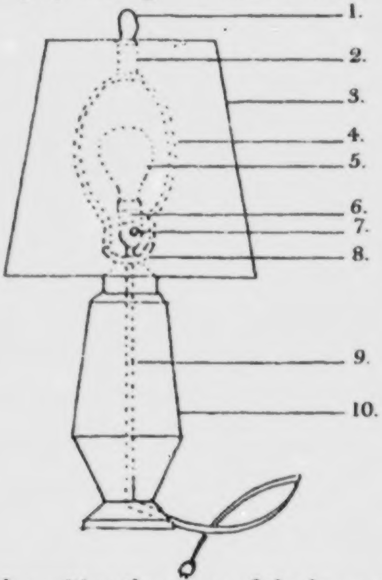
______10. The placement of light.

Activity 9-5 • Identification

Directions

Most accessories are chosen mainly because of their aesthetic beauty, but a lamp must be evaluated for both its beauty and use. Review the information discussed in the lamps section of the Reference Book by completing the following activities.

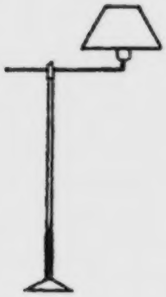
Part A. Study the lamp illustrated below. Identify the parts of the lamp by writing the name of the numbered part in the corresponding numbered blank below.



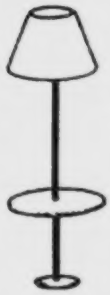
Parts of a Lamp

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________
7. ______________________________
8. ______________________________
9. ______________________________
10. ______________________________

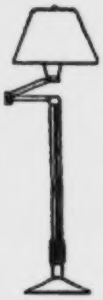
Part B. Below are illustrations of types of lamps. Identify each lamp by writing the name of the lamp on the blank provided.



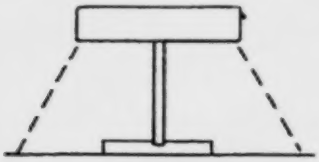
1. ____________________



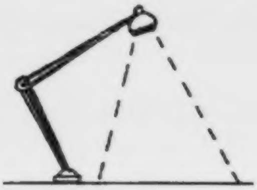
2. ____________________



3. ____________________



4. ____________________



5. ____________________

Activity 9-6 • True/False

Directions

Review plants and flowers by completing the following exercise. Read each statement. If the statement is True, circle the letter **T** to the left of the statement. If the statement is False, circle the letter F. Rewrite each false staement making it true.

T F 1. Plants are used in decorating to add color and effect.

____

T F 2. When arranging a large group of plants, the decoration scheme should be built around the smallest plant.

____

T F 3. The physical needs of a plant should be considered before deciding whether it is appropriate for a particular place in an arrangement.

____

T F 4. Plants and flowers can be used in every room.

____

T F 5. Large plants are often used in corners to fill up space and take the place of a piece of furniture.

____

T F 6. Using a variety of plant heights, scale, shapes, and colorations can create an unbalanced look.

____

T F 7. An arrangement that serves as the focal point or center of interest in a table setting is the table appointment.

____

T F 8. A huge arrangement of flowers would look great on a small dining room table.

____

T F 9. Centerpieces on buffets or serving tables should be low enough for seated guests to see over them.

____

T F 10. Centerpieces can be centered on a table or they can be placed off-center.

____

Directions

Review the different table appointments and linens discussed in Chapter 9 by completing the following activity. Read each item. Complete the sentences by choosing the best response from the choices listed under each of the sentences. Write the letter of the response in the blank provided at the left of the sentence.

_____ 1. Table appointments include all of the following EXCEPT
A. china, crystal, and flatware.
B. dinnerware, glassware, and flatware.
C. dishes, table linens and holloware.
D. table linens, centerpieces, and lighting.

_____ 2. Products made from a clay base and fired in a kiln are known as
A. bone china.
B. ceramics.
C. flatware.
D. lime glass.

_____ 3. The finest china is called
A. bone china.
B. borosilicate.
C. porcelain.
D. semivitreous.

_____ 4. The type of glassware used to make cooking utensils is
A. borosilicate.
B. lead.
C. open stock.
D. semivitreous

_____ 5. Knives and forks are called
A. dinnerware.
B. flatware.
C. glassware.
D. holloware.

_____ 6. The flatware that resembles sterling silver in appearance, but costs less is
A. holloware.
B. nickel silver.
C. silver plate.
D. stainless.

_____ 7. Keeping the height of the centerpiece low enough for people seated at the table to see over it is a way to apply
A. balance.
B. emphasis.
C. proportion/scale.
D. rhythm.

_____ 8. Placing the centerpiece closer to one end of the table with the coffee or tea service at the other end is an example of establishing
A. balance.
B. emphasis.
C. proportion/scale.
D. rhythm.

_____ 9. Colored place mats that harmonize with the color of the dishes and the centerpiece is one way to apply
A. balance.
B. emphasis.
C. proportion/scale.
D. rhythm.

_____ 10. Flatware arranged in an interesting repeating pattern is an example of
A. balance.
B. emphasis.
C. proportion/scale.
D. rhythm.

_____ 11. A large part of any china department's business is sales connected with
A. bridal selections.
B. glassware.
C. sterling silver.
D. table appointments.

_____ 12. Table linens refers to
A. any table covering.
B. flatware.
C. tablecloths.
D. table coverings made from linen.

_____ 13. Table coverings that are twelve to thirteen inches wide and as long as the table on which they are used are called
A. cotton tablecloths.
B. napkins.
C. place mats.
D. runners.

_____ 14. Towels and shower curtains are examples of
A. bath linens.
B. holloware.
C. linens.
D. runners.

Activity 9-7 • Multiple Choice, cont'd.

_____ 15. Towels are made of fabric called
A. linen.
B. muslin.
C. percale.
D. terry.

_____ 16. A standard size of a bath towel is
A. 11" x 18".
B. 16" x 26".
C. 24" x 44".
D. 35" x 65".

_____ 17. The number of pounds of pull necessary to break an inch of fabric is known as
A. muslin.
B. tenacity.
C. tensile strength.
D. thread count.

_____ 18. The number of lengthwise and crosswise yarns located in one inch of fabric before shrinkage is called
A. percale.
B. pull strength.
C. tensile strength.
D. thread count.

_____ 19. Percale sheets have an average thread count of
A. 140
B. 160
C. 180
D. 200

_____ 20. These are available in standard, queen and king
A. bath sheets
B. bath towels
C. bed linens
D. table cloths

Chapter 10

Walls and Ceilings

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 10:

- 2A Analyze characteristics of materials and workmanship in relationship to durability and use.
- 3C Describe trends in materials, accessories, lighting, and space utilization.
- 3F Describe characteristics, use, and care of wall treatments.

Introduction

Walls and ceilings are an important part of any home. They provide both privacy and protection from the outdoors as well as aid in heating, cooling, lighting, and absorbing sounds. Additionally, walls and ceilings determine the size, shape, and character of a home. The materials and finishing treatments chosen for the walls and ceilings can greatly affect the unique individuality of the interior environment. Therefore, careful consideration should be given to the materials available.

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Activity 10-1 • Short Answer

Directions

Review the information on walls by responding to the following questions. Write your answers in the spaces provided.

1. What is the difference between load-bearing and nonload-bearing walls?

2. What are five types of wall materials that may be used when designing rooms?
   1)
   2)
   3)
   4)
   5)

3. What are three advantages to wood walls?
   1)
   2)
   3)

4. What are two types of softwoods?
   1)
   2)

5. What are two types of hardwoods?
   1)
   2)

6. Which takes a finish more easily, hardwoods or softwoods?

7. What is a vapor-barrier?

8. What are masonry walls?

9. What are two advantages of brick walls?
   1)
   2)

10. What are the three categories of stone?
   1)
   2)
   3)

11. What is limestone?

12. What is marble?

13. What is granite?

14. What is slate?

15. What is the oldest of all manufactured building materials?

16. How are glass blocks made?

17. Why is ceramic tile popular in bathrooms?

18. What are frescoes?

19. What is the most common material used on residential walls?

20. How are most drywalls textured today?

Activity 10-2 • True/False

Directions

Review wall treatments and paints by completing the following activity. Read each statement. If the statement is true, circle the letter **T** to the left of the statement. If the statement is false, circle the letter **F**. In the space provided, rewrite each false statement to make it true.

T F 1. Treatments used to finish and decorate walls include paint and wall coverings.

____

T F 2. Wall coverings are the most common type of wall treatment used in homes.

____

T F 3. Since walls make up the largest area in a room, wall treatments must harmonize with the overall decorating themes and with the size and shape of a room.

____

T F 4. Paint is a low-cost wall treatment that is simple to apply.

____

T F 5. Paints are classified according to their vehicles or binders.

____

T F 6. A resin is a man-made material.

____

T F 7. Oil-based paints consist of a pigment or color suspended in canola oil.

____

T F 8. Alkyds are oil-modified resins that dry much faster and harder and are more durable than ordinary oils.

____

T F 9. Latex paints have a water base.

____

T F 10. Latex paints blister and peel easily.

____

Activity 10-2 • True/False, cont'd.

T F 11. The lower the gloss of a paint, the more likely it is to show flaws and surface irregularities.

____

T F 12. The first coat applied to a surface before painting or stain is an intumescent.

____

T F 13. The moisture content of wood is usually the major consideration when painting wood.

____

T F 14. Special knot sealers must be used before applying paint, especially to pine.

____

T F 15. Fillers are made of finely ground rock called silex.

____

T F 16. Sanding is usually required before painting to give the surface tooth.

____

T F 17. Sandblasting is a process in which fine silica particles are blown onto a surface under high pressure.

____

T F 18. Rollers are best to use for painting woodwork and uneven surfaces.

____

T F 19. The most effective method for applying paint to furniture is spraying.

____

T F 20. Walls should be dusted in an upward movement.

____

Activity 10-3 • Matching

Directions

Review types of wall coverings by completing the following activity. Match each type of wall covering to its standard description. Write the letter of the term in the blank to the left of its definition.

Terms

A. borders
B. damasks
C. embossed papers
D. flocked papers
E. grass cloth
F. murals
G. silk-screened papers
H. tapestries
I. Toiles-de-Juoy
J. toile

Descriptions

____ 1. Wall hangings that served as insulation and created dramatic atmosphere

____ 2. First used in the early 1600s France, the designs were printed with a type of glue

____ 3. Texture is rolled into them during the manufacturing process

____ 4. Made of loosely woven plant fibers backed with paper

____ 5. Narrow strips of decorative wall paper used around doors and windows

____ 6. Large designs of a scroll-type pattern

____ 7. Cotton cloth made during the 18th and 19th centuries

____ 8. Wall papers that have the same type of prints or scenes

____ 9. Designed using complete scenes that do not have a repeat

____ 10. Because of the hand process, the patterns do not always meet at the seams

Activity 10-4 • Calculations/Math

Directions

Review measuring for wall coverings by calculating the following exercises. The formula for measuring wall coverings is provided in Figure 10.2, page 163 of the Reference Book. For each exercise, show your work. Write your answers in the space provided.

1. The bedroom you will wallpaper is 15' x 20'. The ceilings are 8' high. There is one door and one window in the room. How many metric rolls of wallpaper will you need?

2. Based on your answer in #1, how much will the paper cost if it is $19.99 per roll?

3. The breakfast room you want to wallpaper is 9' x 12'. The ceilings are 10' high. There are two doors and one large window in the room. How many metric rolls of wallpaper will you need?

4. Based on your answer to #3, how much will the paper cost if it is packaged in a triple roll priced at $45 per roll?

Activity 10-5 • Sentence Completion

Directions

Review ceilings by completing the following activity. Read each statement and select the most appropriate answer to complete the sentence. Write the answers in the blanks provided.

1. Centuries ago, ceilings were designed to be very ____________________.

2. One can define a basic or standardized ceiling as flat, ____________________ feet high, finished with ____________________ board or plaster, and white or neutral.

3. To create certain moods in a room, a ceiling can be ____________________ or lowered.

4. Dropped ceilings are lower than the remainder of the ceiling area so as to ____________________ or define a certain space.

5. Gabled or ____________________ ceilings increase the apparent volume of a room.

6. Single sloping ceilings which call attention to the highest and lowest levels in a room are called ____________________ ceilings.

7. A ceiling where the walls and ceilings flow into each other by means of a curved surface is called a ____________________ ceiling.

8. The two most commonly used materials for ceilings are ____________________ and ____________________.

9. Tiles produced in polished aluminum, bronze, or brass are used in contemporary ____________________ ceilings.

10. Because it reflects light well and does not interfere with the appearance of height, the color ____________________ is generally used on ceilings.

Chapter 11

Floors and Floor Coverings

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 11:

- 2A Analyze characteristics of materials and workmanship in relationship to durability and use.
- 2C Explain labeling requirements and appropriate procedures for the care of various furnishings.
- 3C Describe trends in materials, accessories, lighting, and space utilization.
- 3G Identify characteristics of types of flooring in relationship to design and construction.

Introduction

Flooring and floor coverings set the mood in a room. Different effects are created using floor coverings of different colors, patterns, and textures. In addition to contributing to the beauty of an interior room, flooring and floor coverings should be durable, attractive, and fit into the color scheme of the room and home. Other factors to consider when choosing flooring include the use of the room, the amount of maintenance the flooring requires, the amount of time an individual has to spend to maintain the floor, and the overall look desired.

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Activity 11-1 • Matching

Directions

Review vocabulary words associated with hard-surface floor coverings by completing the following activity. Match each term to its description. Write the letter of the term in the blank to the left of its definition.

Terms

A. agglomerate
B. ceramic mosiac
C. ceramic
D. Delft tiles
E. hardwoods
F. linoleum
G. marble
H. Mexican tile
I. onyx
J. parquet
K. Quarry tile
L. random plank floor
M. resilient
N. sheet vinyl
O. soft woods
P. strip flooring
Q. terrazzo
R. travertine
S. veneer
T. verdigris

Descriptions

________ 1. Include oak, maple, and birch.

________ 2. Examples are pine, fir, cedar, redwood, and spruce.

________ 3. Layers of thin sheets of wood bonded together with water resistant glues.

________ 4. Consists of long, narrow boards placed side by side.

________ 5. Composed of boards ranging from three to twelve inches wide.

________ 6. Short strips of wood laid in geometrical patterns.

________ 7. The most ancient of all finished materials used today.

________ 8. Marbles that may have layers of different colors.

________ 9. Marbles that have a prevailing green color.

________ 10. Tiles made with marble chips of similar size.

________ 11. Tiles made from broken pieces of marble of various sizes.

________ 12. A porous limestone.

________ 13. Tiles made of baked clay.

________ 14. Tiles known for their blue and white designs.

________ 15. Individual tiles are mounted on a sheet to help keep them together.

________ 16. Tiles made from clay shaped by hand.

________ 17. Tile fired at high temperatures that allow it to withstand endless high-pressure and hot steam cleanings.

________ 18. Product that resulted from an attempt to create artificial leather to be used for bookbinding.

________ 19. Smooth-surfaced materials that spring back or have cushioning.

________ 20. Product manufactured in one of two ways: rotogravure or inlaid.

Activity 11-2 • Short Answer

Directions

Review your knowledge of carpeting by answering the following questions. Write your response in the space provided.

1. When and where was the first carpet mill established in the United States?

2. According to the Carpet and Rug Institute, what are the six primary functions of carpet?
   1)
   2)
   3)
   4)
   5)
   6)

3. Identify the three factors that are important for a consumer to know about carpet construction and quality. Briefly define each factor.
   1)
   2)
   3)

4. How can density be determined?

5. The Textile Fiber Products Identification Act requires that all manufacturers label their carpet samples with what four items?
   1)
   2)
   3)
   4)

6. A. What is the most popular natural fiber for carpeting?

Activity 11-2 • Short Answer, cont'd.

B. What is the most popular man-made fiber used for carpeting?

7. How is a rug distinguished from a carpet?

8. What is the difference between a woven carpet and a tufted carpet?

9. What are the four styles of tufted carpets?
   1)
   2)
   3)
   4)

10. In what three categories are padding typically grouped? Briefly describe each type.
    1)

    2)

    3)

Directions

Determining the exact amount of floor covering needed is difficult and requires skill and experience. Instructions used to determine the square yards of floor space are found on page 183 of the Reference Book. Use these instructions to calculate answers to the following exercises.
Write your answers in the spaces provided. (Show your work).

1. A client wants to carpet his bedroom. The room is 23' x 20'. How many square yards of carpet must be purchased?

2. You are changing the window display where you work. The space is 10' x 8'. How many square yards of carpet will you need?

Activity 11-4 • Fill-in-the-Blank

Directions

Review caring for carpet and rugs by completing the following activity. Complete each sentence by writing the best answer in the blank provided.

______________ 1. Carpet manufacturers recommend that carpet be (1) at least once a week.

______________ 2. The upright and the (2) type are two types of vacuum cleaners.

______________ 3. It is best to clean oriental rugs with a (3) ____ type vacuum cleaner.

______________ 4. Changing the locations of furniture periodically can help prevent (4) in the carpet.

______________ 5. Cut pile carpets often (5) .

______________ 6. The little balls of tangled fibers and lint that happen with certain carpet types is known as (6) .

______________ 7. The formation of small waves or folds in the carpet is called (7) .

______________ 8. The friction of rubbing almost any two different materials together can cause (8) electricity.

______________ 9. Liquids spilled on carpets should be soaked or blotted with a (9) towel.

______________ 10. When cleaning a spot or stain, work from the (10) of the stain to the center so that the stain does not spread.

______________ 11. Most stains become harder to remove when left (11) for a long period of time.

______________ 12. Stain removal should not begin until the (12) of the stain and the _____ of carpet is determined.

____

______________ 13. Detergent solution is made by mixing one teaspoon of mild (13) detergent or a colorless _____ liquid in one cup of _____.

____

____

______________ 14. For stubborn stains or large area cleanings, a (15) carpet cleaner should be consulted.

______________ 15. The extraction method of carpet cleaning is also known as (15) cleaning.

______________ 16. The method of carpet cleaning in which shampoo and a rotary floor machine are used to remove surface soil is called the (16) method.

______________ 17. The dry extraction method of cleaning carpet is also know as the (17) ____ method.

____

______________ 18. Overwetting carpet during foam cleaning may result in (18) of the carpet or staining caused by wet carpet backing.

______________ 19. Many medicines, foods, beverages, and other liquids contain (19) .

______________ 20. Some stains are (20) to remove.

Chapter 12

Case Goods and Upholstered Furniture

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 12:

2A Analyze characteristics of materials and workmanship in relationship to durability and use.

2B Identify characteristics of materials and workmanship in relationship to appearance, performance, use, and care of furnishings.

2C Explain labeling requirements and appropriate procedures for the care of various furnishings.

3C Describe trends in materials, accessories, lighting, and space utilization.

4A Describe furniture and equipment used in residential and nonresidential applications.

7A Appraise characteristics of good workmanship in furnishings products.

Introduction

There are two main categories of furnishings: case goods and upholstered goods. Case goods include items such as wood dining sets, beds, chest, cabinets, and desks. Upholstered goods include sofas, ottomans, and benches that have fabric coverings.

When looking for quality furnishings in both case goods and upholstered goods, the primary considerations are the types of materials used, the techniques and joints used in construction, and the final finishing. Other factors to take into account when shopping for furniture include considering the needs of the people who will be living in the room, types living activities to be enjoyed in the room, room sizes, the amount of money that can be spent on furniture, and the length of time the furniture needs to last.

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Activity 12-1 • Multiple Choice

Directions

Review the information covered in the introduction and in the case goods section of Chapter 12 by completing the following activity. For each item below, place the letter of the best answer in the blank to the left of the item.

_____ 1. Case goods include
A. beds, tables, sofas, desks.
B. chests, secretaries, ottomans, and chairs.
C. sofas, benches, recliners, and chests.
D. tables, cabinets, desks, and wood dining chairs.

_____ 2. The most common material used to construct furniture is
A. fabrics.
B. metals.
C. plastics.
D. wood.

_____ 3. More expensive hardwoods include
A. mahogany and teak.
B. maple and walnut.
C. oak and cherry.
D. rosewood and walnut.

_____ 4. Top grade woods used in solid wood construction are
A. birch, pine, teak, and maple.
B. cherry, pine, maple, and mahogany.
C. pine, birch, cherry, and maple.
D. pine, birch, cherry, and oak.

_____ 5. A piece of furniture with more than one type of wood used in the exposed parts is
A. all wood construction.
B. combination wood.
C. composite board.
D. solid wood.

_____ 6. A furniture joint consisting of a small wooden peg fitted into corresponding holes which are joined with glue is called a ____ joint.
A. dovetail
B. dowel
C. mitered
D. mortise and tenon

_____ 7. The furniture joint used most often on high quality construction is the ____ joint.
A. dovetail
B. dowel
C. mitered
D. tongue and groove

_____ 8. The type of joint used most often with picture frames and moldings is the ___ joint.
A. double dowel
B. dovetail
C. mitered
D. rabbet

_____ 9. Poor quality furniture can be recognized by all of the following except
A. brass hardware.
B. hard and glossy finish.
C. single-coat varnish.
D. uneven grain.

_____ 10. Good quality furniture can be recognized by all of the following **EXCEPT**
A. doors should fit together without much space between them.
B. dust panels between drawers.
C. hardware glued securely.
D. levelers in the base or legs.

Activity 12-2 • Matching

Directions

Review upholstered furniture by completing the following activity. Match the term to its best description. Place the letter of the correct term in the blank to the left of the statement.

Terms

A. double coil
B. dust cloth
C. framework
D. kapok
E. moroccos
F. platform
G. skirt
H. stuffing
I. twine
J. welting

Descriptions

____ 1. The wooden or structural parts of the furniture piece

____ 2. The traditional spring used in upholstery

____ 3. Used to link springs together at the correct distance

____ 4. The thick layer of cushioning or padding material applied directly over the springs and frame

____ 5. Vegetable padding similar to feather stuffing

____ 6. Also known as goat skins

____ 7. Area under the seat cushions

____ 8. Fabric placed across the bottom of the chair or other item that hides inner construction

____ 9. Cording placed around seams for reinforcement and decoration

____ 10. Fabric that extends below the base of the furniture to the floor

Activity 12-3 • True/False

Directions

Read each statement about preparing furnishings for delivery. If the statement is true, circle the letter **T** to the left of the statement. If the statement is false, circle the letter **F**. In the space provided, rewrite each false statement to make it true.

T F 1. Furniture and accessories require care in handling to prevent damage or soiling.

____

T F 2. Excelsior is a polystrene substance often used for packing.

____

T F 3. If possible, all incoming furnishings should be unpacked and inspected in front of the freight company representative.

____

T F 4. Packing slips should arrive in the regular mail at least one day before the items arrive at the store.

____

T F 5. A packing slip is a piece of paper that indicates the items that should be in a box.

____

T F 6. Any additional information that helps identify an item is called a sidemark.

____

T F 7. The packing slip should be compared with the sidemark to determine that the correct merchandise was sent.

____

T F 8. Clean, white cotton or plastic gloves are recommended when handling furniture.

____

T F 9. Plastic pads should be used on the bottoms of accessories to be placed on goods.

____

T F 10. Lifting heavy pieces of furniture can lead to injuries if correct lifting procedures are not followed.

____

Chapter 13

Fabrics, Textiles, and Leather

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 13:

2A Analyze characteristics of materials and workmanship in relationship to durability and use.

2B Identify characteristics of materials and workmanship in relationship to appearance, performance, use, and care of furnishings.

2C Explain labeling requirements and appropriate procedures for the care of various furnishings.

3C Describe trends in materials, accessories, lighting, and space utilization.

Introduction

The terms fabrics and textiles are often used interchangeably even though they do not mean the same thing. Fabrics include any kind of cloth that may be woven, knitted, felted, or tufted. Textiles is used to describe the materials used to make fabrics, such as fibers and yarns. Leather is neither a fabric nor a fiber. It is a material derived from animal skin which is prepared through the tanning process. To ensure the proper selection of fabrics used in furnishings, the housing and furnishings industry professional is knowledgeable in identifying characteristics of fabrics in relationship to appearance, performance, use, and care.

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Activity 13-1 • Sentence Completion

Directions

The terms fabrics and textiles are often used interchangeable even though they do not mean the same thing. Check your knowledge of fabrics and textiles by completing the following sentences. Place the word or words that best complete(s) the sentence on the blank provided.

1. The term used to describe materials that can be used to make fabric, such as fibers and yarn, is ____________________.
2. The process that uses warp and weft threads is called ____________________.
3. In weaving, the lengthwise threads are called the ____________________.
4. The filling threads are the crosswise threads or the ____________________.
5. Fabric that is made of one or more yarns lying in the same direction having loops interlaced is ____________________ .
6. Fabrics made from wool, hair, or fur that are matted together by chemical action, moisture, heat, or pressure are ____________________.
7. The basic strands from which yarns are spun are called ____________________.
8. The type of fibers that includes cotton, flax, ramie, silk, and wool is called ____________________.
9. The type of fibers that includes rayon, acetate, nylon, and polyester is called ____________________.
10. Linen is made from ____________________ fibers.
11. The strongest natural fiber is ____________________.
12. The fiber that comes from sheep, llamas, goats, and alpacas is ____________________.
13. The name used to designate the product of a company is called the ____________________ name.
14. The product originally intended as a substitute for silk is ____________________.
15. A wrinkle-resistant and washable fiber produced from coal, air, water, and petroleum is ____________________.
16. The manufactured fiber that is easy to dye, resists fading, and that is very durable is ____________________ .
17. The fiber that resembles wool and is used for carpeting is ____________________.
18. The general name applied to any group of thermoplastic resins is ____________________ .

Activity 13-1 • Sentence Completion, cont'd.

19. The narrow woven edge of fabric constructed stronger to prevent raveling is the ____________________.

20. Weaves characterized by long, floating warp yarns that produce a glossy look and feel are ____________________ weaves.

21. Velveteen, velvet, and corduroy are examples of a ____________________ weave.

22. Fabrics with elaborate designs woven on jacquard looms are ____________________ fabrics.

23. A treatment applied to the surface of a fabric to improve its appearance or to make its care easier is a fabric ____________________.

24. Frills in taffeta or organdy tend to make a room ____________________.

25. Heavyweight fabrics are good choices for sofas and chairs, but would be too heavy for ____________________.

Activity 13-2 • Application

Directions

Review the information on fabrics and textiles by completing the following activities.

Part A. Using classroom materials, fabrics brought from home, interior design swatch books, or other appropriate resources, locate examples of the following housing and home furnishings fabrics and textiles. For each fabric type listed, cut a 1 inch square and place it in the swatch box using glue, paste, or staples.

1. cotton
2. silk
3. wool
4. linen
5. rayon
6. acetate
7. polyester
8. vinyl

Part B. Listed below are two types of weaves. In the boxes provided, draw examples of the weave design. You may use colored pencils, ink pens, writing pencils, or other types of materials to complete your design. Refer to page 223 of the Reference Book to view illustrations of the two weaves.

9. Plain weave
10. Twill weave

Activity 13-3 • Short Answer

Directions

Review your knowledge about leather and leather upholstery by completing the following activity. Read each item listed below. Record your answers in the spaces provided.

1. Leather is a material of animal skin prepared how?

2. Leather is a by-product of what industry?

3. What is one reason leather is a good choice for upholstery?

4. What percent of all the hides produced worldwide are suitable for upholstery?

5. What is the job of a tannery?

6. What is top grain?

7. What are "beauty marks?"

8. According to the leather glossary, what is
   - finishing?
   - embossing?
   - hand?
   - hides?

9. What is one disadvantage of leather and suede furniture?

10. What is the required care for leather furniture?

Chapter 14

Windows and Window Treatments

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 14:

1E Apply guidelines for coordinating furnishings.

2A Analyze characteristics of materials and workmanship in relationship to durability and use.

2B Identify characteristics of materials and workmanship in relationship to appearance, performance, use, and care of furnishings.

3D Illustrate appropriate window treatments for specific windows.

Introduction

Windows are a noticeable element in the design of any structure. They are used to frame a view and to serve as a decorative feature for both the inside and outside of a home or building. Windows also serve a number of other purposes: they control light, provide ventilation, reduce heat loss, and keep out the weather. Knowing the types and functions of windows helps the housing and furnishings industry professional determine the most appropriate decorative treatment.

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Activity 14-1 • Identification

Directions

The window is a noticeable element in the design of any building. Review your knowledge of windows by completing the following activities.

Part A. Review parts of a window by completing the following activity. Using the window illustration below, identify the numbered parts of the window. For each numbered part, write the name of the part on the corresponding numbered blank.

Parts of a window

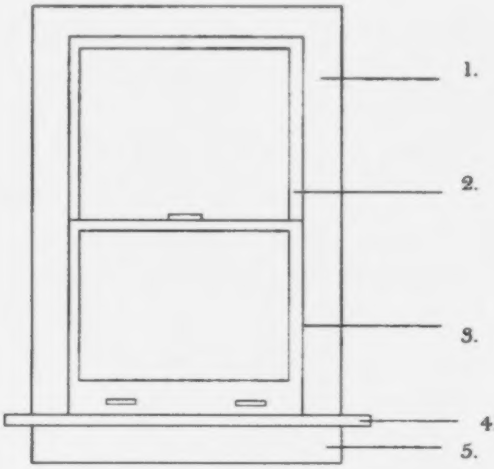
1. ____________________

2. ____________________

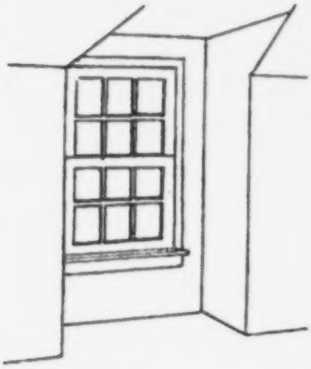
3. ____________________

4. ____________________

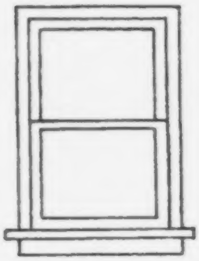
5. ____________________



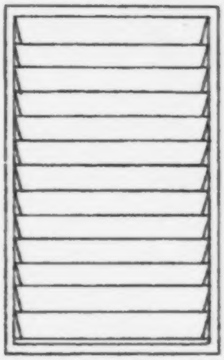
Part B. Review types of windows by completing the following exercise. In this section, there are ten window illustrations. Identify each window by writing the type of window on the blank provided beneath each illustration.



6. ____________________

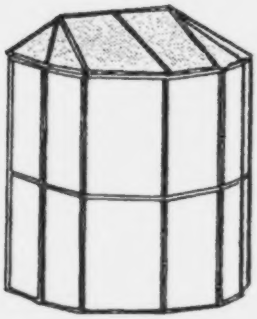


7. ____________________

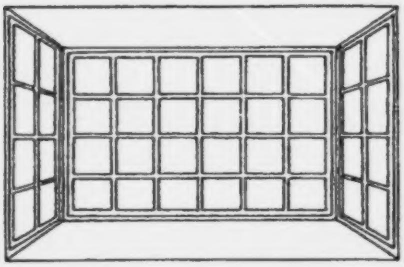


8. ____________________

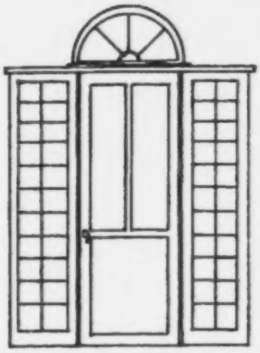
Activity 14-1 • Identification, cont'd.



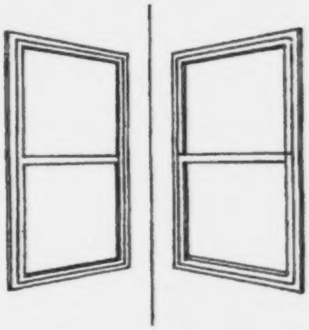
9. ______________________________



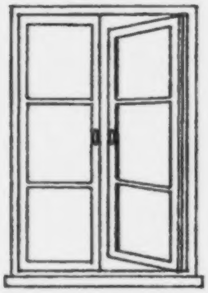
10. ______________________________



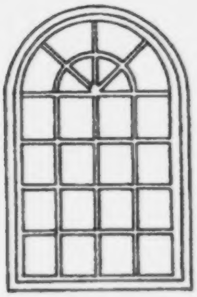
11. ______________________________



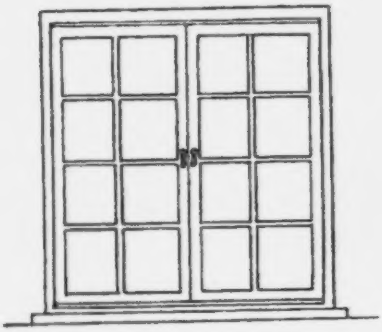
12. ______________________________



13. ______________________________



14. ______________________________



15. ______________________________

Activity 14-2 • Application

Directions

Demonstrate understanding of window treatments by completing the following activity. Listed below are ten types of window treatments. Using a magazine, catalog or similar resource, find examples of each type of window treatment. Cut out the picture and attach it in the box provided using glue, tape, or staples.

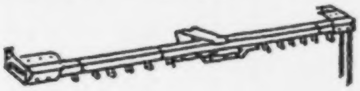
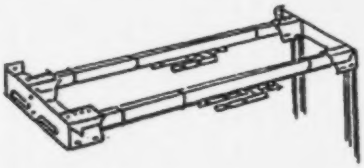
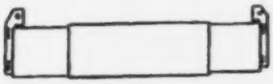
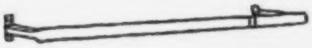
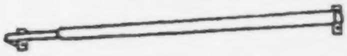
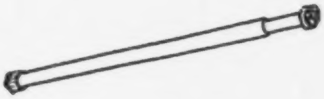
Window Treatment	Example
1. Austrian shade	
2. Balloon curtain	
3. Cafe curtains	
4. Cornice	
5. Draw draperies (pinch pleated)	

Window Treatment	Example
6. Mini blinds	
7. Shutters	
8. Swag with cascade	
9. Valance with cascade	
10. Vertical blind	

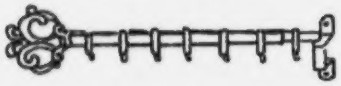
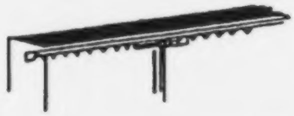
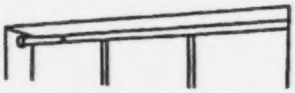
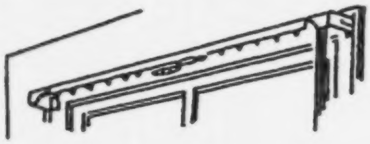
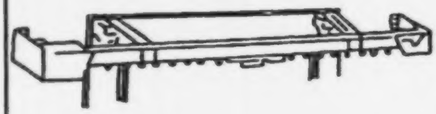
Activity 14-3 • Identification/Description

Directions

Demonstrate knowledge of accessories for window treatments, specifically rods and mountings, by completing the following activity. Shown below are types of rods and mountings. In the spaces provided, identify the window accessory and describe its use. An example follows:

Rods and Mountings	Decription of Use
Example 1. adjustable two-way traverse rod 	used for draperies or pleated curtains that open from the center
2. ____________ 	
3. ____________ 	
4. ____________ 	
5. ____________ 	
6. ____________ 	

Activity 14-3 • Identification/Description, cont'd.

Rods and Mountings	Decription of Use
7. ____________________ 	
8. ____________________ 	
9. ____________________ 	
10. ____________________ 	
11. ____________________ 	

Chapter 15

Construction and Care of Window Treatments

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 15:

1B Exhibit how the elements of design can create various effects.
2A Analyze characteristics of materials and workmanship in relationship to durability and use.
2B Identify characteristics of materials and workmanship in relationship to appearance, performance, use, and care of furnishings.
2E Demonstrate procedures for the care and maintenance of different types of furnishings and equipment.
3D Illustrate appropriate window treatments for specific windows.
5A Apply safety rules in performing various workplace procedures according to industry standards.
6B Demonstrate safe and skillful tool care and use.
7A Appraise characteristics of good workmanship in furnishings products.
7B Utilize knowledge of design application, selection, and construction to complete furnishings projects.
7C Analyzes uses of technology in furnishings, design, and construction.

Introduction

Construction of custom window treatments is a major part of the interior furnishings for both new and remodeled homes. Window treatments include draperies, shades, and top treatments such as cornices, valances, and swags. The housing and furnishings industry professional must use correct techniques in every phase of construction for the finished product to hang well and look attractive.

Window treatments collect dust and dirt from both the windows and the inside of the room. For this reason frequent dusting and occasional washing or cleaning is required. Because window treatments can be ruined by using an incorrect method of cleaning, professionals must consider special cleaning procedures for the various fabrics used in construction.

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Activity 15-1 • Scenario

Directions

Demonstrate understanding of safety in the construction of window treatments by completing the following activity. Read the scenario. Follow the instructions provided in the scenario.

Scenario:

You are the owner of an interior design facility. Your business operations include construction of window treatments for clients. Safety is a big issue and you want to ensure that your employees understand the importance of following company safety policies. In the space provided, design a safety poster for the workplace. You may use colored pencils, colored markers, or other types of artist supplies. Refer to the safety section, page 252 of the Reference Book, and Chapter 17 for safety issue topics that you might use in your poster.

Activity 15-2 • Math/Calculations

Directions

Most drapery shops send a skilled employee to the house of each client to measure the windows for treatments. This employee should have experience in drapery construction and understand the math necessary to determine amounts of fabric needed. Review procedures for measuring and figuring yardage widths and lengths by completing the following activity. Read and follow the instructions provided for each calculation. (Sow ypur work)

1. Determine the number of fabric widths needed for a window by following the procedures found on page 253 of the Reference Book. Using the total cut width of 215" from Table 15.1, find the number of fabric widths needed when the fabric is

a. 36" wide

b. 45" wide

c. 108" wide

2. Using the number of fabric widths calculated in 1a, 1b, 1c, determine the number of yards of fabric needed by following the procedures found on page 253 of the Reference Book. Calculate the number of yards using the total cut length of 90" from Table 15.2. Show your work.

a.

b.

c.

Activity 15-3 • Fill-in-the-Blank

Directions

The selection of appropriate thread and needle size influences the ease of construction and the final appearance of draperies and curtains. Review information regarding choosing thread, needle, and stitch by completing the following activity. Read each item. Complete each sentence by writing the best answer in the blank provided.

1. Thread selection is based upon the __________ and __________ of the fabric.

2. Drapery fabrics usually can be classified into four categories: __________, __________, __________, or __________.

3. Thread sizes range from __________ to __________.

4. Mercerized cotton and blend threads range from __________ to __________.

5. A #10 nylon filament thread is used because it is lightweight, durable, and __________.

6. When selecting thread for a printed fabric, choose a thread one shade __________ than the dominate color.

7. Before beginning to sew, test the effect of the needle size and stitch size by __________ on a sample piece of fabric.

8. On the sample piece of fabric, there should be no visible __________ left in the fabric.

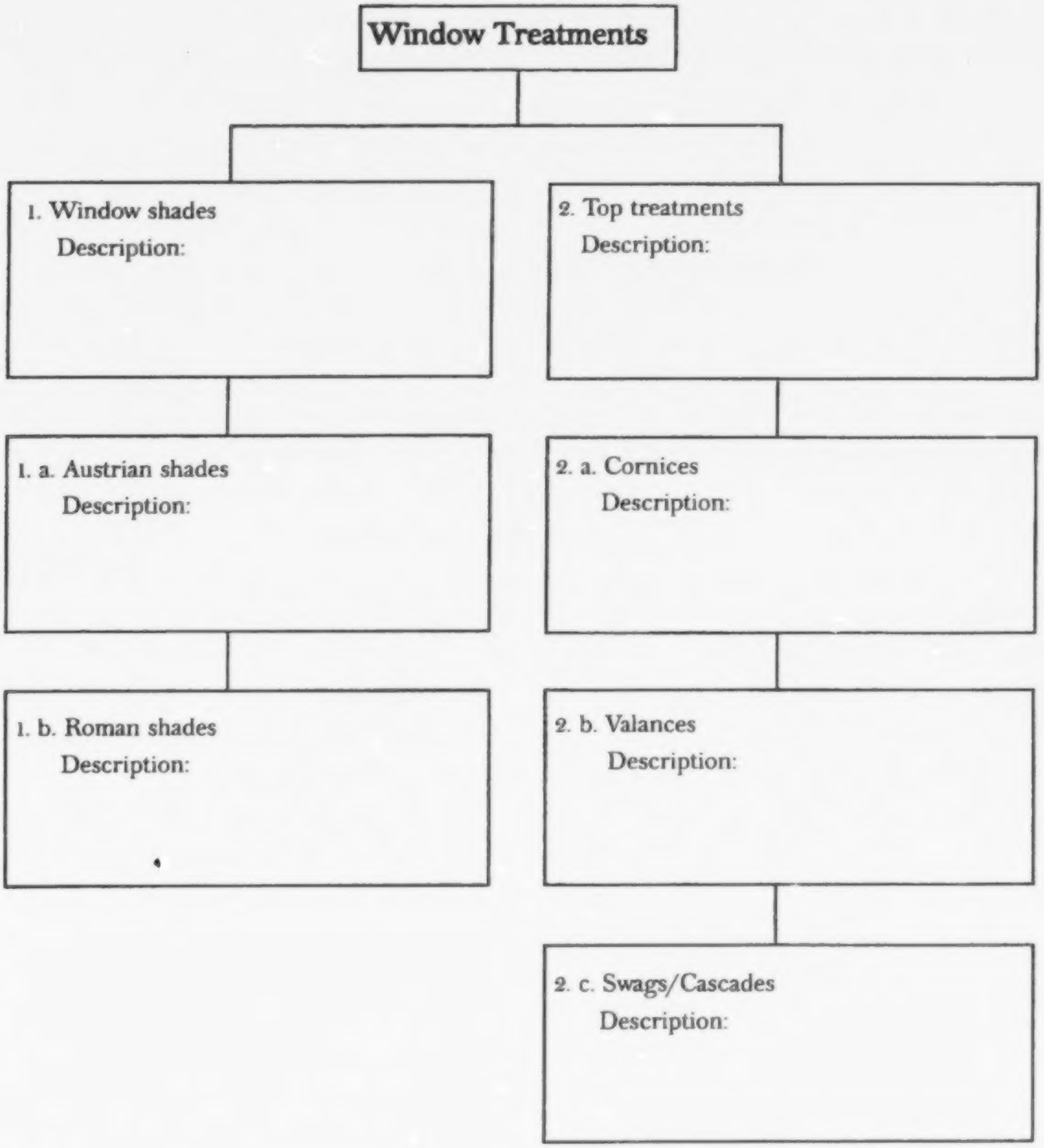
9. A puckered stitching line results when the machine tension is too __________ or the stitch is too __________.

10. Sewing with a needle that is too large can cause __________ along the line of stitching.

Activity 15-4 • Web Diagram

Directions

Review construction of other window treatments by completing the following activity. Complete the web diagram by providing brief descriptions for each type of widow treatment listed. Write your description in the space provided.


Window Treatments
1. Window shades
Description:
2. Top treatments
Description:
1. a. Austrian shades
Description:
2. a. Cornices
Description:
1. b. Roman shades
Description:
2. b. Valances
Description:
2. c. Swags/Cascades
Description:

Activity 15-5 • Case Studies

Directions

Review care and cleaning of window treatments by completing the following activity. Read the case studies below. Then, respond to each of the items by writing your answers in the spaces provided.

Case Study 1

Lupe has been hired as a showroom assistant in a local furniture and home accessories business. Part of her job description is to periodically clean the draperies hanging in the showroom. Today, the manager is providing her with the best procedure for vacuuming draperies with a wand attachment.

1. In the space provided, list the four steps that Lupe will follow when vacuuming draperies.

Step 1.

Step 2.

Step 3.

Step 4.

Some draperies and curtains–mainly those purchased ready-made–can be washed.

2. Explain how Lupe can test the fabric to make sure it is safe to wash.

3. After testing the fabric and making certain that the draperies are safe to wash, the manager guides Lupe through the steps involved in washing draperies by machine. In the space below, briefly describe the machine washing method.

4. Lupe is now ready to re-hang the draperies. Assist her by listing the steps to follow when re-hanging draperies.

Case Study 2

As a window treatment designer, you have samples of your work displayed in your shop. One section includes shutters that need to be cleaned regularly in order to present an attractive exhibit.

5. Briefly describe the method used for cleaning shutters.

Chapter 16

Bedding Ensembles and Pillows

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 16:

- 2A Analyze characteristics of materials and workmanship in relationship to durability and use.
- 2C Explain labeling requirements and appropriate procedures for the care of various furnishings.
- 3A Analyze products to determine the appropriate style of design.

Introduction

The bedroom, more than any other room, reflects the personality and individuality of the person using it. Bedspreads, coverlets, and pillow shams should be coordinated with the decor of the entire room. The choice of fabric depends upon the mood to be created and upon the lines, colors, and textures used in the room.

Housing and furnishings industry professionals employed in a drapery workroom or interior design studio may have the job of constructing these decorative furnishings for customers. These professionals should be able to identify the various types of bedspreads, coverlets, and pillow shams. They may also need to know about types of fabrics, and measuring and construction techniques. Professionals who sell ready-made items will find a general knowledge of bedding ensembles and pillows useful in such tasks as planning displays and general sales.

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Activity 16-1 • Matching

Directions

Review bedspreads by matching the term with its description. Place the letter of the term in the blank to the left of the description. Some terms may be used more than once.

Terms

A. bed length
B. bed width
C. box bedspread
D. coverlet
E. drop
F. plain bedspread
G. ruffled bedspread

Descriptions

_____ 1. It is cut in one section and is the simplest to make

_____ 2. This is the most feminine and has a gathered flounce or skirt

_____ 3. This is sometimes called a cap

_____ 4. A fitted style with straight side and end pieces and fits over the bed like the cover of a box

_____ 5. Measured from the foot of the mattress to the head

_____ 6. Measured from one edge of the mattress to the other

_____ 7. The measurement from the mattress top to the floor

_____ 8. Quilts are often used as these

_____ 9. Also known as a throw bedspread

_____ 10. An inverted pleat is usually formed where the foot section meets the side section or a slit can be cut and an underlay inserted

Activity 16-2 • True/False

Directions

Review pillows, cushions, and bolsters by completing the following activity. Read each statement. If the statement is true, circle the letter **T** to the left of the statement. If the statement is false, circle the letter **F**.

T F 1. Knife-edge pillows are made by sewing two pieces of fabric together without a side panel.

____

T F 2. Box pillows are often used as couch backs to provide extra seating.

____

T F 3. A flange-edge pillow has pleats or gathers that radiate from the center point of the pillow.

____

T F 4. A sunburst pillow usually has flat, covered button in the center.

____

T F 5. Cushions are usually defined as pads placed on chairs or sofas.

____

T F 6. Casings are pads that are firmly stuffed to provide support.

____

T F 7. A casing helps a pillow hold its shape and make it easier to slip a form into the cover.

____

T F 8. When measuring fabric for construction, a length and width are the only measurements required.

____

T F 9. The simplest type of pillow to contstruct is the flange-edge pillow.

____

T F 10. Cording is a finish made by covering a length of a cord with a bias strip of fabric.

____

Activity 16-3 • Identification

Directions

Review characteristics of fillings by completing the following activity. Below are types of fillings. Complete the box by providing three characteristics for each type of filling listed. Write your response in the space provided.

Characteristics of Fillings	
Type of Filling	Characterisitcs
1. Down	• • •
2. Foam Rubber	• • •
3. Kapok	• • •
4. Polyester fiber	• • •
5. Polyurethane foam	• • •

Chapter 17

Safety and Sanitation

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 17:

5A Apply safety rules in performing various workplace procedures according to industry standards.

5B Identify potential hazards and prevention practices.

5C Summarize laws pertaining to safety and sanitation practices.

5D Demonstrate appropriate responses to emergency situations.

5E Determine workplace procedures that protect the environment.

Introduction

Safety and sanitation are concerns in any business. Accidents due to carelessness can cause injury and loss of work time that hurt both the employee and the business. Other problems could occur if a customer were involved in an accident. Needless accidents can be avoided when individuals observe safe practices and are constantly careful. To help insure the safety of employees, customers, and guests, management must provide a safe facility. This is accomplished through establishing safety rules and procedures, providing employees with safety training, enforcing safety rules and regulations, and providing fire extinguishers and first aid kits.

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Activity 17-1 • Short Answer

Directions

Review general safety and sanitation rules for working in the housing and furnishings industry by responding to the following items. Record your answers in the spaces provided.

1. What do the letters OSHA stand for?

2. According to OSHA, what are the five responsibilities of *management* related to safety?

3. According to OSHA, what are the five responsibilities of *employees* related to safety?

4. What is fatigue?

5. How do physical and mental fatigue differ?

6. What is one way fatigue can be avoided?

7. What may cause flickering lights or appliances?

8. What are two electrical safety precautions?

9. What are two supply room safety and sanitation rules?

10. What can a manager do to ensure that stairways are safe?

Activity 17-2 • Case Studies

Directions

Review medical emergencies by completing the following activity. Read each case study. Respond to each question by writing your answer in the space provided.

Case Study 1

John must move the room setting in the window display to another display location in the store. What are five options he has for moving the heavy furninshings to their new location?

1.

2.

3.

4.

5.

Case Study 2

Sara is cleaning some equipment with a rust remover that is not doing a complete job. She decides to add some bleach to the rust remover. What advice would you give Sara regarding the mixing of chemicals?

Case Study 3

Michael is taking out the trash from several locations in the store. The receptacle he is using is getting very full and he needs more room. There is a broken florescent tube protruding from the almost full receptacle. What safety measures should Michael observe when combining trash?

Case Study 4

Ashley cut her arm on a nail protruding from a furniture crate. What should she do when the cut is minor? What should she do in case of a puncture wound?

Case Study 5

While moving a mirror from one display to another, the mirror falls and the glass breaks. Greg tries to grab the mirror as it falls. Several pieces of the broken mirror hit his arm and leg. He begins bleeding profusely. What should be done?

Activity 17-3 • Scenarios

Directions

Review weather or disaster emergencies, fire safety procedures, common fire hazards, and unique emergencies by completing the following activity. Read each scenario. Respond to each question by writing your answer in the space provided.

Scenario 1

Lauren is the owner of an interior design company. It is tornado season and she wants to prepare her store and her employees in case of power failures. What three steps should Lauren take to ensure the safety of her employees during a power failure?

1.

2.

3.

Scenario 2

Cassie goes to the delivery/storage room and notices a strange smell. As she looks for the cause of the smell, she notices a drum of dirty cleaning rags next to the back door which has been left open. Upon closer inspection, she realizes the rags are on fire. What four actions should she take when reporting a fire?

1.

2.

3.

4.

Scenario 3

Kerry is organizing the delivery area when she notices a pile of packing material on the floor not far from a floor space heater. Why might this be a hazard?

Scenario 4

When there is a fire in a home furnishings store, employees and customers can become frightened and confused. Leticia has been told it is important to know what to do to ensure the safety of employees and customers. What should Leticia know about moving people to safety during a fire?

Scenario 5

Landry works in the furniture delivery department of a local home furnishings retail store. While loading an end table onto a dolly, he notices a man acting unusual. Landry thinks the man may have put something in his pocket. What are two methods an establishment can take to reduce the occurrence of shoplifting? What should Landry do if he suspects a customer of shoplifting?

Activity 17-4 • Short Answer

Directions

Review information regarding protecting the environment by completing the following activity. Respond to each item in the spaces provided.

1. What three major environmental concerns closely affect the housing industry?

   1)

   2)

   3)

2. What is the purpose of the Environmental Protection Agency or EPA?

3. According to the EPA statistics, what percent of their time do Americans spend indoors?

4. What is sick building syndrome?

5. Many manufacturers are creating housing products with improved efficiency in the use of energy and other natural resources. What are three examples?

   1)

   2)

   3)

Chapter 18

Tools and Equipment Used in Production

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 18:

6A Identify tools and equipment used in construction of furnishings.

6B Demonstrate safe and skillful tool care and use.

6C Describe the impact of technology on tools, equipment, and construction.

Introduction

The housing and furnishings industry is made up of a variety of businesses, each using job-specific tools and equipment. Whether employed in the industry of flooring, furniture construction, furniture upholstery, or furnishings production, employees need to be knowledgeable in the types of tools and equipment used for their particular jobs. Good materials, quality tools and equipment, and high quality workmanship are all equally important in producing quality products.

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Activity 18-1 • Fill-in-the-Blank

Directions

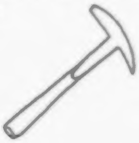
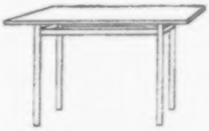
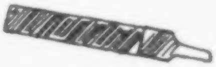
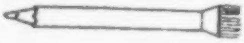
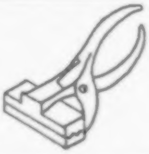
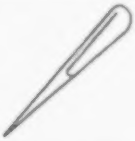
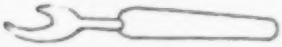
Review equipment used in the flooring industry by completing the following activity. Read each of the statements below. In the boxes provided, write in the word(s) that best complete(s) each sentence.

1. A device similar to a tape measure that has a string or line that may be 50 or 100 feet long is the _____ _____.
   ☐☐☐☐☐ ☐☐☐☐
2. A hand-held tool used to spread the adhesive for wood and other types of flooring is called a _____.
   ☐☐☐☐☐☐
3. Once flooring is aligned, it should be pressed into the floor with a steel straightedge or _____ _____.
   ☐☐☐☐☐☐☐ ☐☐☐☐☐☐
4. A device used to help spread adhesive and flatten the flooring evenly to the subfloor is a _____ _____.
   ☐☐☐☐☐ ☐☐☐☐☐☐
5. The carpet industry in the United States began around _____ with the use of English inventions including Hargreave's spinning jenny.
   ☐☐☐☐
6. The first looms produced carpet _____ that were twenty-seven inches wide.
   ☐☐☐☐☐☐☐
7. A manual piece of equipment that has a head with large teeth that bite into carpet is a _____ _____.
   ☐☐☐☐☐ ☐☐☐☐☐☐☐☐☐
8. A tool with grippers on a flat head that is used to stretch short lengths of carpet is a _____ _____.
   ☐☐☐☐ ☐☐☐☐☐☐
9. Sharp knives used to cut carpet are _____ knives.
   ☐☐☐☐☐☐☐
10. A hand-held iron used with seam tape to eliminate seam splitting, yarn raveling, and seam peaking is a _____ iron.
    ☐☐☐☐

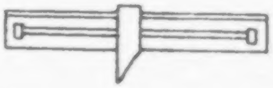
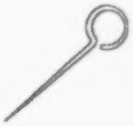
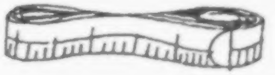
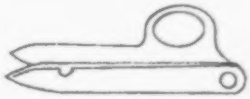
Activity 18-2 • Identification

Directions

DIRECTIONS: It is important to know the tools and equipment used in the housing and furnishing industry. In the box below are various tools and equipment used in constructing furniture and furnishings. Complete the box by identifying the tool or equipment illustrated. Then, provide the function or use for the tool. An example is provided.

	Tools & Equipment	Funtion or Use
Example: 	Cabriole hammer	Used in constructing upholstered goods. It is used in hard-to-reach places and must be carefully aimed
1. 		
2. 		
3. 		
4. 		
5. 		
6. 		

Activity 18-2 • Application, cont'd.

	Tools & Equipment	Funtion or Use
7. 		
8. 		
9. 		
10. 		

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Activity 18-3 • Matching

Directions

Review domestic and industrial sewing equipment by matching the term with its description. Place the letter of the term in the blank to the left of the description. Each letter may be used once or more than once.

Terms

A. automatic stitch machine
B. blind stitch machine
C. domestic sewing machine
D. industrial machine
E. serger
F. single-needle lock stitch machine
G. single-thread chain stitch machine
H. straight stitch machines
I. zigzag stitch machines

Descriptions

____ 1. Used to bind edges of fabrics together to prevent fraying

____ 2. Produces a stitch that is almost invisible on the outside of the fabric

____ 3. Can only stitch forward or backward

____ 4. Similar to a home sewing machine in that it makes a stitch that is the same on both sides and uses at least two threads – one through the needle and one through the bobbin

____ 5. Makes straight, stretch, chain, zig-zag, and decorative stitches using built-in disks or pattern cams

____ 6. Can perform side to side and straight stitches

____ 7. Used only occasionally in the construction of furnishings

____ 8. Constructed to be safely operated continuously at high speeds

____ 9. Used on longer seams where more flexibility or stretch is desired

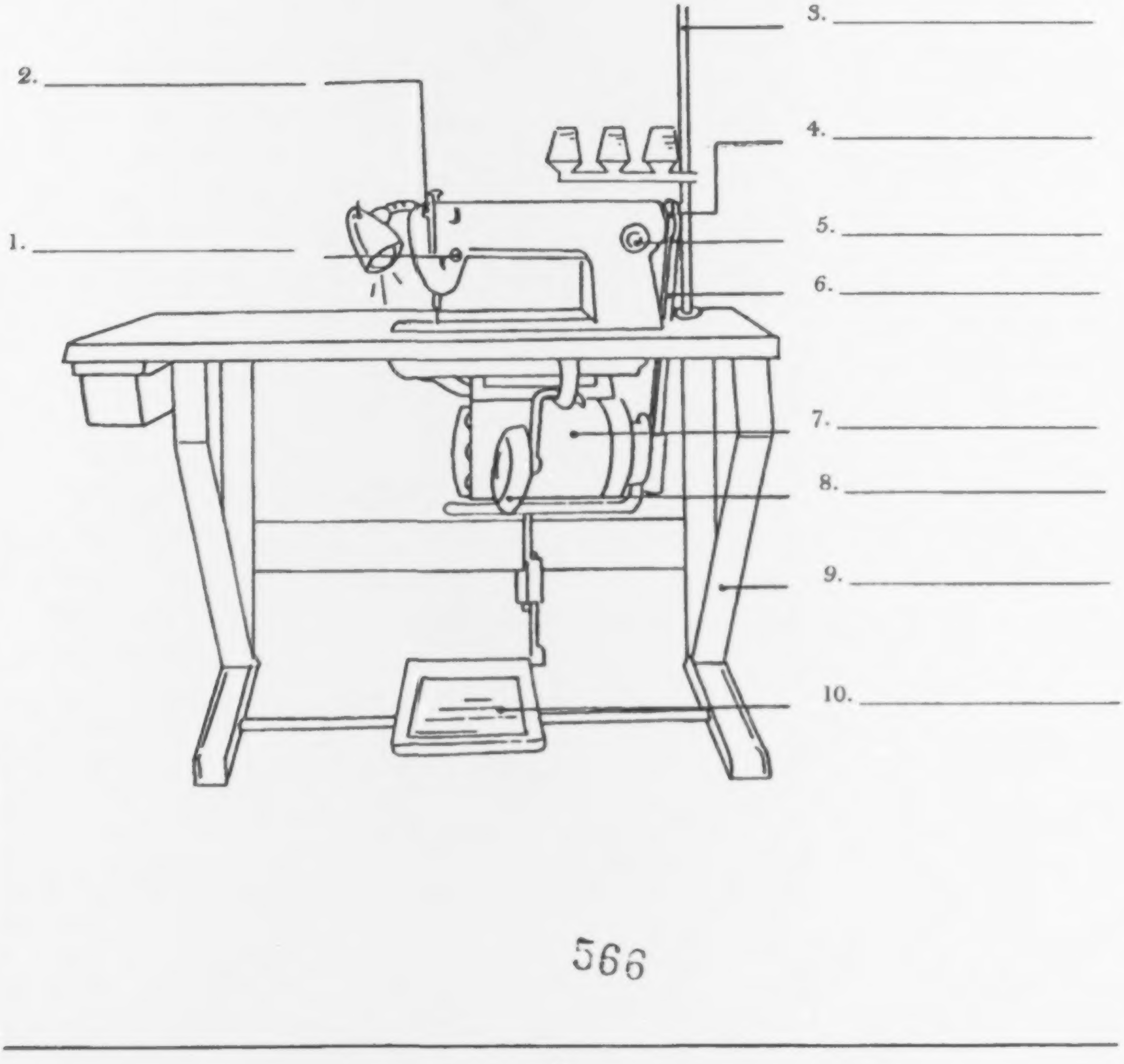
____ 10. Used primarily for hemming curtains and draperies

Activity 18-4 • Labeling

Directions

Some employment opportunities in the furnishings production industry include positions for sewing machine operators using fast, power-driven sewing machines. Review parts of the industrial sewing machine by completing the following activity. Illustrated below is an industrial sewing machine. For each numbered part, write the name of the part on the provided blank.

An Industrial Sewing Machine



Activity 18-5 • Short Answer

Directions

Review pressing equipment and techniques by responding to the following items. Record your answers in the spaces provided.

1. What three things must a person determine before pressing any fabric?
    1)
    2)
    3)
2. What are five types of pressing boards?
    1)
    2)
    3)
    4)
    5)
3. Which pressing board is used for pressing napped fabrics?
4. Which pressing board is used to pound sharp creases in heavy fabric?
5. How is a press cloth used?
6. What are the pressing techniques for
    - dry pressing?
    - wet pressing?
7. What is the difference between pressing and ironing?
8. How should seams be pressed?
9. How should a zipper be pressed?
10. What does it mean when a hem needs to be "blocked?"

Chapter 19

The Evolution of Floral Design

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 19:

11C Describe the benefits of telecommunications in the floral industry.
11D Identify trends in floriculture.
11E Demonstrate the use of artificial flowers and foliage in the industry.

Introduction

Since the earliest known civilizations, flowers have played a major role in our society. Flowers are used to express feelings and emotions. They are also a major decorative element in homes, offices, and places of worship. While the early floral industry emphasized flowers for funerals and weddings, it has now expanded to include flowers for numerous holidays, special occasions, and everyday use.

Impacting today's floral industry is mechanization, design and color trends, marketing trends, and the use of telecommunications and computers. To be successful, the retail florist must keep up with new trends, business suggestions, and industry developments. This knowledge is then used to help the professional be better organized and prepared for the future.

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Activity 19-1 • Matching

Directions

Review the history of floral design by completing the following exercise. Listed below are statements related to certain historical periods and to Asian style. Match each statement to the correct period or style using the key provided. Write the appropriate letter on the blank provided to the left of the statement.

Key

AP = American Period
CP = Classical Period
EP = European Period
CS = Chinese Style
JS = Japanese Style

______ 1. The major contribution of this culture was the introduction of symmetrical tree forms.

______ 2. William Hogarth, an English painter, created the "S" curved arrangements often called the Hogarthian curve named after him.

______ 3. People would use dried materials like cattails, grasses, and wheat.

______ 4. This floral art incorporates a type of simplicity that has become known as line design.

______ 5. Ikebana, "giving life to flowers," is the style of arranging flowers in decorative, rhythmic designs.

______ 6. A typical floral design would have been arranged in a red Venetian glass vase, a wide-mouthed marble urn, or a pedestal vase of metal.

______ 7. People felt the beauty of each flower should be seen and not covered up my massing flowers too tightly.

______ 8. Arrangements at this time were poorly proportioned and were created from many different colored flowers and flower types that caused the arrangements to look spotted with color and unplanned.

______ 9. The first to introduce garlands to be worn on the head at special events.

______10. Arrangements were influenced through tapestry, Chinese vases and figures, and European paintings.

______11. These designs are based on three lines or levels representing heaven, man, and Earth.

______12. The topiary was developed during this style and is popular today.

______13. People had little time to worry about arranging flowers. They had to focus on planting gardens to provide food and necessary herbs for medicine.

______14. Much of the artwork researched showed that the people were influenced greatly by the Chinese.

______15. The preferred shapes include the fan-shaped design, rectangular-shaped design, and the round or radial design.

______16. Floral creations were created with only a few flowers and foliage placed around a centered branch.

______17. One tradition was the blossom-filled scarf. These scarves filled with flowers were offered at the church alter as part of Roman religious ceremonies.

______18. The nosegay, or hand-held bouquet, was an important design created during this period.

______19. Asymmetrical balance and proportion was first seen in these designs.

______20. Introduced the cornucopia or "horn of plenty" which has become the symbol for abundance.

Activity 19-2 • True/False

Directions

Review trends in the floral industry by completing the following activity. Read each statement. If the statement is true, circle the letter **T** to the left of the statement. If the statement is false, circle the letter **F**. In the space provided, rewrite each false statement to make it true.

T F 1. Diversification is an important trend in the floral industry.

____

T F 2. American designers combine the line style and mass style into one arrangement called the line mass style.

____

T F 3. Today, American floral designs are a mixture of Victorian and Japanese designs.

____

T F 4. In most states, there is no licensing to become a floral designer.

____

T F 5. The Color Marketing Group is an international association of color professionals.

____

T F 6. Forecast colors are those that are visible and seen quite often and still considered trendy.

____

T F 7. The established colors are those that are basic to the design industry.

____

T F 8. The color forecasting association used primarily by leading home furnishings and accessory manufacturers is the CAUS.

____

T F 9. Silk flowers are also known as permanent flowers.

____

T F 10. Supermarkets tend to sell only floral products that are imported into the U.S.

____

Activity 19-3 • Short Answer

Directions

Review the benefits of telecommunications and other resources in the floral industry by responding to the following items. Record your answers in the space provided.

1. Why was the floral industry one of the first industries to make the transition to online retail sales?

2. What are three online floral businesses?

    1)

    2)

    3)

3. What will ultimately determine the success of an online floral business?

4. What are two future developments for the online floral business?

5. With wire service, what does the customer pay for?

6. What are two types of educational materials offered by wire service organizations to their members?

    1)

    2)

7. What are four major wire services to which a retail florist may belong?

    1)

    2)

    3)

    4)

Activity 19-3 • Short Answer, cont'd.

8. What are three ways retail florists can keep up with the new trends, business suggestions, developments, and other helpful ideas?

   1)

   2)

   3)

9. What is the primary concern of the Society of American Florists (SAF)?

10. What are four ways computers are used in the floral industry?

    1)

    2)

    3)

    4)

Chapter 20

Elements and Principles of Floral Design

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 20:
10A Demonstrate the elements and principles of floral design.

Introduction

Floral design is a decorative art form requiring knowledge of color, texture, proportion, and balance. A floral design is a plan for arranging flowers in a manner that looks appealing and serves a specific purpose. Well-planned designs produce arrangements that harmonize with their surroundings. In floral planning, florists use the elements of design and the principles of design to achieve the final goal.

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Activity 20-1 • Matching

Directions

Review the elements of floral design by completing the following activity. Place the letter of the elements of floral design in the blank to the left of the characteristic. Each letter may be used more than once.

Elements of Floral Design

A. color
B. color schemes
C. line
D. shape and form
E. texture

Characteristic

____ 1. Layering

____ 2. Analogous

____ 3. Visual path

____ 4. Three-dimensional, refers to the mass or volume of an object

____ 5. Complementary

____ 6. Fillers

____ 7. Surface qualities

____ 8. Intensity

____ 9. High style design

____ 10. Appearance of power and strength

____ 11. Triad

____ 12. Expressed as either visual or physical

____ 13. Hue

____ 14. Terracing

____ 15. Tertiary

____ 16. Two or three-dimensional

____ 17. Creates the impression of movement

____ 18. Oval design

____ 19. Shade

____ 20. Rough, smooth, glossy, dull, and velvety

Activity 20-2 • Short Answer

Directions

Review the principles of floral design by responding to the following questions. Write your answers in the spaces provided.

1. What are the two main types of balance to be considered in creating a floral arrangement?
   1)
   2)

2. What principle is dictated by the size of the design in relation to its surroundings?

3. Which principle refers to the parts of a design in relation to the whole?

4. Where should emphasis or the center of interest be in a floral arrangement?

5. What are four ways to achieve emphasis in a floral design?
   1)
   2)
   3)
   4)

6. Describe a floral arrangement that displays good rhythm.

7. How is variety achieved in a floral design?
   1)
   2)
   3)

8. How is unity achieved in a design?

9. What is one method of creating unity?

10. What are four ways to achieve harmony in a floral design?

1)
2)
3)
4)

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Activity 20-3 • Sentence Completion

Directions

The statements below review floral settings. Complete the items by writing in the word or words that best complete(s) each sentence.

1. Floral arrangements should _____ with their surroundings.

☐☐☐☐☐☐☐☐☐

2. Colors should blend or provide _____.

☐☐☐☐☐☐☐☐

3. Arrangements used for _____ _____ must be designed to be viewed from all sides.

☐☐☐☐☐☐ ☐☐☐☐☐☐

4. Arrangements on dining tables should be no more than _____ inches tall or below chin level of those seated at the table.

☐☐☐☐☐

5. Long, round, or square tables require arrangements that are in _____ to the table.

☐☐☐☐☐☐☐☐☐☐

6. Floral arrangements that are placed against a wall do not require a finished _____.

☐☐☐☐

7. Floral arrangements that are placed against a wall are often larger and _____ designs.

☐☐☐☐☐☐

8. A floral design may reach the bottom of a _____ _____ but should not protrude over it.

☐☐☐☐☐☐☐ ☐☐☐☐☐

9. A mantel arrangement must suit the _____ features of the room.

☐☐☐☐☐☐☐☐☐☐☐☐☐

10. An arrangement near a _____ should lead the eye toward it.

☐☐☐☐☐☐☐☐

Activity 20-4 • True/False

Directions

Review selection of floral materials by completing the following activity. Read each statement. If the statement is true, circle the letter **T** to the left of the statement. If the statement is false, circle the letter **F**. In the space provided, rewrite each false statement to make it true.

T F 1. Flowers and foliage are the basic floral materials.

____

T F 2. Accessories are also considered basic materials.

____

T F 3. Flowers refer to florets or individual blossoms that grow by themselves or in clusters of various kinds.

____

T F 4. Double flowers refers to putting two of the same type flower in a display.

____

T F 5. Most flowers can be categorized as line flowers.

____

T F 6. Eucalyptus is considered a mass foliage.

____

T F 7. Orchids and irises are form flowers.

____

T F 8. Leather leaf ferns are mass flowers.

____

T F 9. Filler material should be added to an arrangement after all form flowers have been placed.

____

T F 10. Filler material adds solidity to an arrangement.

____

Chapter 21

Equipment and Supplies

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 21:

- 10B Identify basic equipment and supplies used in floral design.
- 10C Demonstrate proper selection, use, and care of equipment, tools, supplies, and materials for prescribed tasks.
- 10D Apply storage and care procedures for floral materials, supplies, cut flowers, and live plants.

Introduction

Before any floral design project can be completed, there must be a basic understanding and knowledge of the necessary equipment and supplies needed. Equipment used in floral businesses has been chosen by florists because it best performs the tasks required. Using the proper equipment helps the florist design an arrangement efficiently, since most of the same equipment is used repeatedly for each arrangement. Use of appropriate equipment also ensures that the design is durable and long lasting. For example, in cut flower arrangements, the correct use of equipment is important for maintaining healthy flowers and foliage.

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Activity 21-1 • Fill-in-the-Blank

Directions

Review basic equipment for fresh floral arrangements and information regarding wiring flowers and foliage by completing the following activity. Read each item. Supply the missing word or words that best completes the sentence. Write your answers on the blanks provided.

1. Basic equipment needed for completing fresh floral arrangements include a sharp pair of __________ cutters, ________________ shears, a small knife, and ________________________ for holding flowers until they are needed for an arrangement.

2. Holding devices that are used to secure the flowers and foliage in a floral design are known as ______________________.

3. Holding devices include florists' foam, pin holders, __________ mesh, and floral __________.

4. Arrangements made in bowl-type containers require the use of florists' __________ that absorbs and holds water similar to a sponge.

5. Tall containers or ____________ also may be filled with crushed foam or styrofoam before being filled with water.

6. A nutritive substance that is usually added to the water of an arrangement to prolong the life of the flowers is a ____________________________.

7. Unless there is a reason to do so, flowers should not be ____________ .

8. Weak stemmed roses as well as ________________________ should be wired.

9. Wire with ____________ enamel is available and preferred by most florists because it is less noticeable.

10. Wire is available in various thicknesses or ______________ that are usually numbered.

Activity 21-2 • Application

Directions

Identify the uses and functions of various holding devices/mechanics, floral supplies and basic equipment for artificial flowers by completing the following activity. For each item listed, provide the use or function. Record your answer in the space to the right of the item.

Item	Use or function
1. containers	
2. floral clay	
3. floral tape	
4. glue gun	
5. florists' foam	
6. pick machine	
7. pin holders	
8. plastic saucers	
9. ribbon	
10. wire mesh	

Chapter 22

Cultivation and Care of Floral Products

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 22:

11A Explain advances in cultivation techniques.
11B Analyze preservation techniques for plants and cut flowers.

Introduction

Success in the floral business requires owners, managers, and employees to have knowledge of the use and care of highly perishable products. To really understand the cut flower industry, it is important to understand how flowers are cultivated. Three basic methods are used in the growing of plants and flowers. Some flowers are grown in greenhouses, others are grown in the fields, while still others are grown in shadehouses. The method used depends upon the climate and the type of flower grown.

The care of the florist's stock is an area of the business which requires a great deal of knowledge and skill. Care of flowers will depend upon the seasons of the year and the geographical areas where the flowers were cultivated. Other factors that florists should consider are the care of the cut stem; care of foliage; popular flowers, plants, and foliage; and general characteristics of flowers, flowering pot plants, and florists' greens.

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Activity 22-1 • Short Answer

Directions

Review Chapter 22 introductory material and the cultivation of cut flowers by responding to the following items. Read each sentence. Record your answers in the spaces provided.

1. Define cut flowers.

2. What are speciality cut flowers?

3. What are the two basic methods used in the growing of plants and flowers?

   1)

   2)

4. What are the two basic designs for greenhouses?

   1)

   2)

5. Why are heating and cooling systems needed in greenhouses?

6. What are shadehouses? When are shadehouses used?

7. What are short day plants?

8. What are long day plants?

9. What are three factors to consider when deciding on the best time to harvest flowers?

10. What are three reasons for harvesting flowers in the bud stage?

Activity 22-2 • True/False

Directions

The following exercise is designed to help you review the care of cut flowers and foilage. Read each statement. If the statement is true, circle the letter **T** to the left of the statement. If the statement is false, circle the letter **F**. In the space provided, rewrite each false statement to make it true.

T F 1. The number one factor in maintaining cut flower life is lowering the temperature of the cut flowers to approximately 33-36° F.

T F 2. Forced-air cooling is achieved with boxes that have holes and flaps in them.

T F 3. Flowers are unable to make their own food until they are cut.

T F 4. The life expectancy of a cut flower can be increased by 300 percent when preservatives are used.

T F 5. Nonmetallic containers work best for storing flowers.

T F 6. Submerging freshly harvested flowers in a solution to extend vase life is known as pulsing.

T F 7. Removing the bottom 1/4 of leaves from the flower stem is important before flowers are stored in water and placed in the cooler.

T F 8. Roses will absorb water better if cut under water.

T F 9. Most foilage is long-lasting and requires little if any conditioning.

T F 10. Foilage is available in a wide range of textures, shapes, and colors and lasts a long time.

Activity 22-3 • Sentence Completion

Directions

Review information regarding popular flowers, plants, and foliage, and the general characteristics of flowers, flowering pot plants, and florists' greens. For each item below, unscramble the word or words to complete the sentence. Write the correct word or words on the blank that is provided to the left of each statement.

________ 1. Flowers and plants are often given as FGTIS or used as decoration for special occasions.

________ 2. African Violets are popular GLWFEIRON pot plants.

________ 3. Rubber plants are popular ELIOAGF plants.

________ 4. When cared for properly, RLLOAF NSREGE usually last ten to fourteen days.

________ 5. Sweetheart roses are also known as SBIFRDNOLUA.

________ 6. The second most popular flower following the rose is the OIATNARCN.

________ 7. Most chrysanthemums are grown and shipped from OIDRALF.

________ 8. Flowers that bruise easily and are difficult to ship long distances because of their shape are PGRNSSADNAO.

________ 9. Irregular shaped florets on a spiked stem are called COTSKS.

________ 10. A flower that is shaped somewhat like daises and are available in a wide selection of petal forms, colors, and sizes are called RTSSEA.

________ 11. A cup and saucer shaped flower found in yellow or white with green foliage is a IFADLODF.

________ 12. Orchids are typically grown in ESSRGUOENHE.

________ 13. Known for their white double flowers and fragrances, EANRGSDIA are used often in bridal bouquets and corsages.

________ 14. A flower that has already been wired and combined with foliage to eliminate extra handling is called a DRAILTOE flower.

________ 15. All parts of the EAZLAA plant are toxic and potentially fatal if eaten.

________ 16. Originally from Mexico, TSIATOIPEN are popular Christmas plants.

________ 17. The plant that is sold more often than any other potted plant is the UIRENAGM.

________ 18. The leaves of the ACFRANI ETLVOI are covered with soft hairs and are very brittle.

________ 19. Florist greens or foliage keep well for about a month in ENFIGRAETIROR.

________ 20. The fresh foliage used in arrangements lasts longer than the REWLOFS that are used.

Chapter 23

Entrepreneurial Opportunities

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 23:

12A Describe various opportunities and occupations in the floral industry.

12B Assess ownership and management structures and responsibilities.

12C Explain the impact of the economy on the floral industry.

Introduction

Floriculture is the growing of plants and flowers to be cut and sold. The floral industry is a billion-dollar industry providing thousands of jobs. There are many entrepreneurial opportunities in the floral industry. Some entrepreneurs may establish businesses responsible for growing the flowers and plants while others may market and distribute them. Still others may operate businesses that sell flowers and plants to the public and prepare floral arrangements. All of these businesses are important to the success of the floral industry.

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Activity 23-1 • Matching

Directions

Review entrepreneurial opportunities for growers and wholesalers by matching the terms below with their descriptions. Place the letter of the term in the blank to the left of the description. Each term is used only once.

Terms

A. greenhouse
B. grower
C. head grower
D. office personnel
E. receiving clerks
F. sales person
G. shipper
H. shipping clerk
I. suppliers
J. wholesaler

Descriptions

_____ 1. Building in which the temperature and humidity can be regulated for the growth of plants out of season

_____ 2. Responsibilities include selecting seeds, fertilizers, and soils

_____ 3. Manages the greenhouse, supervises employees, and maintains the production schedule

_____ 4. Person or business that transports flowers from the grower to the supplier or wholesaler

_____ 5. Person or business that stocks the products of many different growers and manufacturers and offers a wide selection of flowers, plants, and supplies for sale to the retail flower shop

_____ 6. Businesses that buy flowers from growers and sell them to wholesalers or retailers

_____ 7. Takes initial care of the flowers and plants the wholesaler receives

_____ 8. May be in charge of the delivery employees and delivery schedules

_____ 9. Those who work in the office to keep records and do the paperwork for the business

_____ 10. Must have knowledge of flowers, trends, and the floral industry to appropriately advise customers

Activity 23-2 • Short Answer

Directions

Review the retail floral industry by completing the following activity. Write your answers in the spaces provided.

1. What size are the majority of retail floral shops in the United States?

2. Identify three duties of the typical manager of a retail floral shop.
   1)
   2)
   3)

3. What is a training manual?

4. What is a fiscal year?

5. What is a profit and loss statement?

6. A balance sheet gives an accurate account of the businesses' assets and liabilities. How do assets and liabilities differ?

7. What are stock records?

8. What are the two major areas of personnel management in a retail floral shop?
   1)
   2)

9. What are the responsibilities of the buyer?

10. How do retailers determine the selling price and retail price of their goods and services?

Activity 23-3 • Creative Writing

Directions

Review employment opportunities in the retail floral industry business by completing the following activity.

You are opening a retail floral business and are looking to hire good people to fill the following positions:

1. Floral designer
2. Buyer
3. Sales personnel
4. Delivery personnel

Choose any two of the four positions. Then, using the space provided, a separate sheet of paper, or word processing system, create an ad to put into the "Help Wanted" section of the local newspaper. In your ad, you may want to identify required duties, knowledge or previous experience, or preferred character traits. Keep the ads short–approximately 3–4 sentences in length. Make them eye-catching. Be creative and fun with this assignment.

Help Wanted

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Activity 23-4 • Research/Interview

Directions

Review the impact of the economy on the floral industry by completing the following activity.

Locate a retail floral business in your neighborhood. Using the text as a guide, formulate questions that will provide you with information regarding the impact of the economy on the floral industry. Call or visit the owner, manager, or buyer to get answers to the following questions. Note: you may use questions that you have written and that have been approved by your family and consumer sciences teacher.

Following your interview, write a brief summary of the impact of the economy on the floral industry. Base your summary on the information given to you in the interview session.

Sample Questions

1. How long has the business been in operation?
2. Is this a family-owned business or part of a large corporation?
3. What holidays see the largest increase in the price of flowers?
4. During what seasons or times of the year do the prices of flowers fluctuate the most?
5. What types of flowers have the most stable prices? (the prices do not fluctuate too much)
6. What types of weather conditions affect the price of flowers? How often is weather a factor in the pricing of flowers?
7. If the store is a family-owned business, what research did the owner conduct before opening the business in this local? (status of the city's economy, the average income of the city, the population of the city, and the number of flower shops in the community)
8. For small businesses: To compete with larger businesses, does this business concentrate on attracting certain types of customers? This is referred to as "targeting a population."
9. What types of advertising and marketing techniques are used?
10. How does the employer find employees?

Chapter 24

Marketing

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 24:

8A Discuss business promotion objectives in the retail housing and furnishings industry.

8B Analyze techniques using sales promotion, advertising, and displays.

8C Describe the use of technology and other forms of advertising media in housing and furnishings business promotions.

8D Explain how business promotion reflects the environment in which a person lives.

8E Predict how societal trends and changing demographics influence housing and furnishings business promotions.

Introduction

Marketing refers to the process involved in moving goods or services from the producer to the consumer. It combines product, price, place, and promotion. Marketing involves executing a sales idea, pricing the merchandise, and promoting it. The primary objective of marketing is to help the business make a profit while providing customers with goods or services that satisfy their needs and wants.

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Activity 24-1 • Matching

Directions

Review marketing strategies by completing the following activity. Place the letter of the marketing strategy that best fits the description in the space provided to the left of the description. The letters can be used more than once.

Marketing Strategy

A. advertising
B. collateral materials
C. cooperative advertising
D. dealer displays
E. marketing
F. personal selling
G. preview parties
H. promotion
I. public relations
J. push money
K. sales promotions
L. seasonal sales
M. Robinson-Pattman Act
N. trade deals

Descriptions

_____ 1. The process involved in moving goods or services from the producer to the consumer

_____ 2. May be referred to as supplemental to advertising and personal selling

_____ 3. Involves analysis, planing, execution, reviewing, and more planning

_____ 4. Given to retail salespeople by many manufacturers or distributors as an incentive to push the sale of particular product or product line

_____ 5. Involves the actions of purposefully causing interest to be created in a person, place, or thing to further the growth and acceptance of the item through special activities

_____ 6. Involves the selling of merchandise or services by one person to another

_____ 7. Special purchase options offered to the retailer for limited time periods on certain merchandise

_____ 8. The action of favorably presenting goods or services for sale to the public using paid announcements publicized or broadcasted by the media

_____ 9. The primary objective is to help the store make a profit while providing customers with goods or services that satisfy their needs and wants

_____ 10. Communication designed to influence opinion and promote a favorable image, goodwill, or prestige for a company, organization, or individual

_____ 11. Accessory advertisement materials used to achieve marketing objectives

_____ 12. In order for this to be successful, the item being highlighted should gain something, such as an increase in sales

____ 13. Referred to as mass selling or nonpersonal selling

____ 14. Direct inducements that offer extra incentives in an effort to accelerate the movement of a particular product from the retailer to the consumer

____ 15. Sales that occur during certain seasons or holidays each year

____ 16. Includes placing news articles and features stories in the local media, arranging speaking engagements, and making donations to local charities

____ 17. Prohibits any price discrimination that would lessen competition or create a monopoly between dealers

____ 18. Advertising expenses shared by the retailer and manufacturer

____ 19. Meetings often held prior to markets in various regions of the country to give the retailer an opportunity to meet and visit with other retailers and ask questions of sales representatives

____ 20. Examples include booklets, catalogs, exhibits, brochures, or display cases containing such items as furniture cleaning supplies, carpet samples, mini blinds, or china

Activity 24-2 • Short Answer

Directions

Review the information related to advertising by responding to the following items. Record your answer in the spaces provided.

1. What is the purpose of advertising?

2. Which newspaper ran the first newspaper advertisement in the American colonies?

3. What role did Benjamin Franklin play in early advertisements?

4. The advertising industry was started with what medium?

5. What nineteenth century developments affected the advertising industry? (list three)

6. What is the function of the Federal Trade Commission?

7. When did radio begin?

8. What post-WWII innovation was a threat to all other media?

9. What is e-Commerce?

10. What are the six basic categories of advertising? Briefly describe each.

    1.
    2.
    3.
    4.
    5.
    6.

Activity 24-3 • Sentence Completion

Directions

Review information regarding the classification of advertising media by completing the following sentences. For each item below, write the word or words in the blanks provided that best complete(s) the sentence.

1. Any paid means that is used to present an idea, a product, or an advertisement to a target group is a(n) ____________________.
2. The fact that many people either do not have time to go shopping or they do not like shopping is a contributing factor to the success of ____________________ ____________________.
3. Booklets that describe products that may be ordered are ____________________.
4. General merchandise, including furnishings and accessories, are sold through ____________________ ____________________.
5. Extremely popular with Internet advertisers, ____________________ ads accounted for more than half of Internet advertising sold in late 1999.
6. The advertising that is sold on a "cost per thousand impressions" basis is ____________________ advertising.
7. Even if they cannot afford other forms of advertising, all stores can have ____________________.
8. The biggest advantage that magazines have over other forms of media is that they can pinpoint an ____________________.
9. One of the fastest growing segments of the magazine industry is ____________________ magazines.
10. A category of magazine advertising that is not meant to create awareness or demand as other sources of media, but is meant to direct consumers to a particular business when they are ready to buy is ____________________ ____________________ advertising.
11. In most newspapers, advertising that is merely column after column of small print is ____________________ advertising.
12. Designing that is often done by the newspaper staff is required in ____________________ advertising.
13. Advertising that should both sell merchandise as well as educate the consumer is ____________________ advertising.
14. Advertising that is paid in part or in full by the manufacturer is ____________________ advertising.
15. Radio's peak listening time is also known as ____________________ ____________________.

16. Advertisements are called commercials or ____________________.

17. Advertising that uses articles of merchandise as the advertising medium is ____________________ advertising.

18. A store logo on the side of a company truck is known as ____________________ advertising.

19. The industry that lends itself best as reminder advertising is the billboard industry or ____________________ advertising industry.

20. A board outside a business on which letter and words can be changed easily to advertise products or services is a ____________________.

Chapter 25

Customer Relations

Chapter Focus

The following Essential Knowledge and Skills are discussed in Chapter 25:

9A Analyze the importance of good customer relations in building and maintaining a business.

9B Demonstrate techniques for maintaining good client relationships.

9C Describe conflict resolution techniques when dealing with customer complaints.

Introduction

A vital part of any successful business is maintaining positive relationships with customers. It is the job of the retailer to satisfy the customer in order to encourage repeat business. Basics for good customer relations include a genuine interest in and a willingness to please customers. Positive interpersonal skills also help in maintaining good customer relations. Traits, such as friendliness, cheerfulness, courtesy, and tact, are important in dealing with customers.

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Activity 25-1 • Matching

Directions

Maintaining positive relationships with customers is a vital part of any successful business. Review the importance of customer relations by completing the following activity. Match the terms below with the statements that describe them. Place the letter of the term in the blank to the left to of each related statement. Some terms may be used more than once.

Terms

A. comparison shopper
B. consumer
C. customer
D. follower
E. impulse buyer
F. innovative customer

Descriptions

_____ 1. Person who uses goods or services

_____ 2. Enjoys being a trendsetter

_____ 3. Customer who visits a store to gain information about merchandise

_____ 4. Person who generally chooses only products with well-known reputations

_____ 5. Person who purchases goods or services from a retailer

_____ 6. Person who buys a new item in order to be the first to use it

_____ 7. Does not often make purchases on his or her first visit to a store

_____ 8. Customer who makes a buying decision rapidly without much thought

_____ 9. Person who checks prices, quality of merchandise, product availability and other buying information

_____ 10. Placement of items in convenient locations for customers appeal is often appealing to this type of shopper

Activity 25-2 • Word Scramble

Directions

Review techniques for maintaining client relationships by completing the following activity. For each item below, unscramble the word(s) to complete the sentence. Write the correct word(s) on the blank that is provided to the left of each statement.

____________ 1. Lasting impressions the customer forms of the designer are often RITFS impressions.

____________ 2. The action of being aware of, being sensitive to, and understanding another person's thoughts, feelings, and experiences is YMPAHET.

____________ 3. Designers must give the impression that the client is HRTGI.

____________ 4. Important in maintaining good customer relations are TIIPSEVO interpersonal skills.

____________ 5. Displaying an attitude that is pleasant and warm is SSDRIFNEILNE.

____________ 6. A sense of humor is closely related to RLESHCSEENUF.

____________ 7. People who show respect and consideration for others while showing a willingness to cooperate are considered to be UEOTSCRUO.

____________ 8. The ability to say and do the right thing at the right time is CTTA.

____________ 9. To maintain positive relations, always consider the customer's SFLEEGNI.

____________ 10. The more the designer knows about the MFYILA, the easier the job will be.

Activity 25-3 • Scenario

Directions

Employees may have to handle customer complaints either in person or by telephone. Read the situations below. On the lines provided, provide an example of the action an employee might take to establish good customer relations.

1. As a customer walks through the store, she trips over the corner of a rug. The belongings of her purse roll onto the floor. She begins to complain loudly to you about the rug and her fall. What should be done?

2. A customer tells you that the pair of candlesticks he purchased in your store for $50 are selling for $26 at Jospeh's Designs. He claims that your store has intentionally overcharged him for the candlesticks. How should this situation be handled?

3. A customer buys several accessory items. When the customer gets home and unpacks her purchases, she notices that the decorative bowl she purchased is not there. It is on her sales receipt. She calls the store to complain about the problem. Cyndi is the one that packaged the customer's purchases. Cyndi remembers the customer and the purchase, but does not remember packing the bowl. As Cyndi looks around the front desk, she finds the bowl under some tissue paper. What should be done?

4. Edward is working the cash register. He takes the bill offered by a customer, puts it in the cash drawer and makes change from $10. The customer claims to have handed Edward a $20, not $10. What should Edward do?

5. An advertisement in the newspaper incorrectly shows the special of the week as a 10 oz. bottle of Williamsburg Silver Cleaner for $1.99. The special price should be $11.99. One of the store's best customers bring several bottles to the register only to be told that the ad was incorrect. The customer becomes upset and claims false advertising, saying she will take her business elsewhere. How should this situation be handled?

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